

Docket No.: CL001204DIV
Serial No.: To Be Assigned
Inventors: Wei SHAO et al.
Title: ISOLATED HUMAN KINASE...

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1  CGGGCGCGGC GCGGCGGCG GTGACAGCGG CGCCCGCGCC TCCCGCGCG
51  TAGGTGTGCG GCGCGCTCCT GGCGAGGACG GAGCGAGCAG ATCTCGCGTG
101 CGCTCGCCGC CCGGCGCAGC CCAGCCCGGC CCGCGCGAGC
151 CGAGGTGTCT CCCGCGCCCG CGCCCGTGTG GCCGCGGTGC CCGCGAGCGG
201 GAGCCGGAGT CGCCGCGGCC CGAGCGCAGC CGAGCGCACG CCGAGCCCGT
251 CCGCCGCCGC CATGGCCACC ACGGTGACCT GCACCCGCTT CACCGACGAG
301 TACCAGCTCT ACGAGGATAT TGGCAAGGGG GCTTCTCTG TGGTCCGACG
351 CTGTGTCAAG CTCTGCACCG GCCATGAGTA TGCAGCCAAG ATCATCAACA
401 CCAAGAAGCT GTCAGCCAGA GATCACCAGA AGCTGGAGAG AGAGGCTCGG
451 ATCTGCCGCC TTCTGAAGCA TTCCAACATC GTGCGTCTCC ACGACAGCAT
501 CTCCGAGGAG GGCTTCCACT ACCTGGTCTT CGATCTGGTC ACTGGTGGGG
551 AGCTCTTTGA AGACATTGTG GCGAGAGAGT ACTACAGCGA GGCTGATGCC
601 AGTCACTGTA TCCAGCAGAT CCTGGAGGCC GTTCTCCATT GTCACCAAAT
651 GGGGTCGTC CACAGAGACC TCAAGCCGGA GAACCTGCTT CTGGCCAGCA
701 AGTGCAAAGG GGCTGCAGTG AAGCTGGCAG ACTTCGGCCT AGCTATCGAG
751 GTGCAGGGGG ACCAGCAGGC ATGGTTTGGT TTCGCTGGCA CACCAGGCTA
801 CCTGTCCCCT GAGGTCCTTC GCAAAGAGGC GTATGGCAAG CCTGTGGACA
851 TCTGGGCATG TGGGGTGATC CTGTACATCC TGCTCGTGGG CTACCCACCC
901 TTCTGGGACG AGGACCAGCA CAAGCTGTAC CAGCAGATCA AGGCTGGTGC
951 CTATGACTTC CCGTCCCCTG AGTGGGACAC CGTCACTCCT GAAGCCAAAA
1001 ACCTCATCAA CCAGATGCTG ACCATCAACC CTGCCAAGCG CATCACAGCC
1051 CATGAGGCCC TGAAGCACCC GTGGGTCTGC CAACGCTCCA CGGTAGCATC
1101 CATGATGCAC AGACAGGAGA CTGTGGAGTG TCTGAAAAAG TTCAATGCCA
1151 GGAGAAAGCT CAAGGGAGCC ATCTCACCA CCATGCTGGC CACACGGAAT
1201 TTCTCAGTGG GCAGACAGAC CACCGCTCCG GCCACAATGT CCACCGCGGC
1251 CTCCGGCACC ACCATGGGGC TGGTGGAACA AGCCAAGAGT TTAATCAACA
1301 AGAAAGCAGA TGGAGTCAAG CCCCAGACGA ATAGACCAA AACAGTGCA
1351 GCCGCCACCA GCCCAAAGG GACGCTTCTT CCTGCCGCCC TGGAGCCTCA
1401 AACCACCGTC ATCCATAACC CAGTGGACGG GATTAAGGAG TCTTCTGACA
1451 GTGCCAATAC CACCATAGAG GATGAAGACG CTAAAGCCCG GAAGCAGGAG
1501 ATCATTAAGA CCACGGAGCA GCTCATCGAG GCCGTCAACA ACGGTGACTT
1551 TGAGGCCTAC GCATTCTACT TCGAGAACCT GCTGGCCAAG AACAGCAAGC
1601 CGATCCACAC GACCATCCTG AACCACACG TGACGTCAT TGGAGAGGAT
1651 GCCGCTGCA TCGCTTACAT CCGGCTCACG CAGTACATTG ACGGGCAGGG
1701 CCGGCCCGC ACCAGCCAGT CTGAGGAGAC CCGCGTGTGG CACCGCCGCG
1751 ACGCAAGTG GCAGAACGTG CACTTCCACT GCTCGGGCGC GCCTGTGGCC
1801 CCGTGCAGT GAAGCCAAGG GAGGGGCACA GAATGGGGAA CAGGACACAG
1851 GATCTTAAAC TCCAAGGGGA CTGTCCACCG ATGAACACTC AGAGTGGACA
1901 CCATCTTCCG TCCACGCTGT GCCCAGGACA GCTGTCCCA TCCATGAACA
1951 CAGGGTAAAC ATCTGCCGGG CTCCGCACCA GTGGCTCCCT GGGCCATGGG
2001 ACAGCGGCAG GGCTCACCAC GGACAGCACG TGGCCCAGCA GCCGGCCACC
2051 CTGGCGTCCT GGGGCTCCT CCCCTCCTCT CCTCTCACC TTGTCACTC
2101 CACGGAGCTG CCTGTCTGGG ATAATTGGG GATTTTTTTT TCTGGGGGAT
2151 AATTCTTTTG CATGACCCCT AAAGAGCAAG CCACACCGGT CTGCTAGCTA
2201 GGTGTCCGCG GTGTGGTG (SEQ ID NO:1)
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FEATURES:

5'UTR: 1-261
Start Codon: 262
Stop Codon: 1810
3'UTR: 1813

FIGURE 1A

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Homologous proteins:

Top 10 BLAST Hits

					Score	E
CRA 18000005245285	/altid=gi 5326757	/def=gb AAD42035.1	AF07880...		1047	0.0
CRA 18000005199792	/altid=gi 10835006	/def=ref NP_001211.1	cal...		1044	0.0
CRA 18000004938668	/altid=gi 6671660	/def=ref NP_031621.1	calc...		1039	0.0
CRA 18000004937301	/altid=gi 11120682	/def=ref NP_068507.1	Ca+...		1038	0.0
CRA 18000005245287	/altid=gi 5326762	/def=gb AAD42037.1	AF08192...		1001	0.0
CRA 18000005171302	/altid=gi 3668373	/def=gb AAC79460.1	(AF085...		999	0.0
CRA 1000737074531	/altid=gi 6688228	/def=emb CAB65122.1	(AJ252...		986	0.0
CRA 18000005245288	/altid=gi 5326764	/def=gb AAD42038.1	AF08341...		986	0.0
CRA 18000004964693	/altid=gi 466360	/def=gb AAA81938.1	(U06636...		982	0.0
CRA 18000005199791	/altid=gi 4139268	/def=gb AAD03743.1	(AF112...		982	0.0

BLAST dbEST hits:

				Score	E
gi 12801212	/dataset=dbest	/taxon=960...		1675	0.0
gi 12868201	/dataset=dbest	/taxon=960...		1453	0.0
gi 2053138	/dataset=dbest	/taxon=9606 ...		1247	0.0
gi 10213950	/dataset=dbest	/taxon=96...		1243	0.0
gi 9324431	/dataset=dbest	/taxon=960...		1233	0.0
gi 12921378	/dataset=dbest	/taxon=960...		910	0.0

EXPRESSION INFORMATION FOR MODULATORY USE:

library source:

From BLAST dbEST hits:

gi|12801212 Fetal brain
 gi|12868201 Fetal brain
 gi|2053138 Testis
 gi|10213950 Lung small cell carcinoma
 gi|9324431 uterus endometrium adenocarcinoma cell libe
 gi|12921378 Fetal brain

Tissue expression from PCR-based tissue screening panels:

hippocampus

FIGURE 1B

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1 MATTVTCTRF TDEYQLYEDI GKGAFSVVR CVKLCTGHEY AAKIINTKKL
51 SARDHQKLER EARICRLKH SNIVRLHDSI SEEGFHYLVF DLVTGGELFE
101 DIVAREYYSE ADASHCIQQI LEAVLHCHQM GVVHRDLKPE NLLASKCKG
151 AAVKLADFGL AIEVQGDQQA WFGFAGTPGY LSPEVLRKEA YGKPVDIWAC
201 GVILYILLVG YPPFWDEDQH KLYQQIKAGA YDFPSPEWDT VTPEAKNLIN
251 QMLTINPAKR ITAHEALKHP WVCQRSTVAS MMHRQETVEC LKKFNARRKL
301 KGAILTTMLA TRNFSVGRQT TAPATMSTAA SGTTMGLVEQ AKSLLNKKAD
351 GVKPQTNSTK NSAAATSPKG TLPPAALEPQ TTVIHNPVDG IKESSDSANT
401 TIEDEDAKAR KQEIIKTTEQ LIEAVNNGDF EAYAFYFENL LAKNSKPIHT
451 TILNPHVHVI GEDAACIAYI RLTYIDGQG RPRTSQSEET RVWHRRDGKW
501 QNVHFHCSGA PVAPLQ (SEQ ID NO:2)

FEATURES:

Functional domains and key regions:

[1] PDOC00001 PS00001 ASN_GLYCOSYLATION
N-glycosylation site

Number of matches: 3

1	313-316 NFSV	(residues 313-316 of SEQ ID NO:2)
2	357-360 NSTK	(residues 357-360 of SEQ ID NO:2)
3	399-402 NTTI	(residues 399-402 of SEQ ID NO:2)

[2] PDOC00004 PS00004 CAMP_PHOSPHO_SITE
cAMP- and cGMP-dependent protein kinase phosphorylation site

Number of matches: 2

1	48-51 KKLS	(residues 48-51 of SEQ ID NO:2)
2	259-262 KRIT	(residues 259-262 of SEQ ID NO:2)

[3] PDOC00005 PS00005 PKC_PHOSPHO_SITE
Protein kinase C phosphorylation site

Number of matches: 4

1	47-49 TTK
2	51-53 SAR
3	358-360 STK
4	367-369 SPK

[4] PDOC00006 PS00006 CK2_PHOSPHO_SITE
Casein kinase II phosphorylation site

Number of matches: 9

1	36-39 TGHE	(residues 36-39 of SEQ ID NO:2)
2	51-54 SARD	(residues 51-54 of SEQ ID NO:2)
3	79-82 SISE	(residues 79-82 of SEQ ID NO:2)
4	94-97 TGGE	(residues 94-97 of SEQ ID NO:2)
5	109-112 SEAD	(residues 109-112 of SEQ ID NO:2)
6	262-265 TAHE	(residues 262-265 of SEQ ID NO:2)
7	400-403 TTIE	(residues 400-403 of SEQ ID NO:2)
8	401-404 TIED	(residues 401-404 of SEQ ID NO:2)
9	485-488 SQSE	(residues 485-488 of SEQ ID NO:2)

[5] PDOC00007 PS00007 TYR_PHOSPHO_SITE
Tyrosine kinase phosphorylation site

9-17 RFTDEYQLY (residues 9-17 of SEQ ID NO:2)

FIGURE 2A

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[6] PDOC00008 PS00008 MYRISTYL
N-myristoylation site

Number of matches: 3

1	302-307	GAILTT	(residues 302-307 of SEQ ID NO:2)
2	332-337	GTTMGL	(residues 332-337 of SEQ ID NO:2)
3	390-395	GIKESS	(residues 390-395 of SEQ ID NO:2)

[7] PDOC00100 PS00107 PROTEIN_KINASE_ATP
Protein kinases ATP-binding region signature

20-43 IGKGAFSVVRRCKLCTGHEYAAK (residues 20-43 of SEQ ID NO:2)

[8] PDOC00100 PS00108 PROTEIN_KINASE_ST
Serine/Threonine protein kinases active-site signature

132-144 VVHRDLKPENLLL (residues 132-144 of SEQ ID NO:2)

Membrane spanning structure and domains:

Helix	Begin	End	Score	Certainty
1	195	215	1.665	Certain
2	319	339	1.301	Certain

FIGURE 2B

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BLAST Alignment to Top Hit:

>CRA|18000005245285 /altid=gi|5326757 /def=gb|AAD42035.1|AF078803_1
(AF078803) calcium/calmodulin-dependent protein kinase II
beta subunit; CAM2 [Homo sapiens] /org=Homo sapiens
/taxon=9606 /dataset=nraa /length=542
Length = 542

Score = 1047 bits (2678), Expect = 0.0
Identities = 516/542 (95%), Positives = 516/542 (95%), Gaps = 26/542 (4%)
Frame = +1

Query: 1 MATTVTCTRFTDEYQLYEDIGKGAFSVVRRCVKLCTGHEYAAKIINTKKLSARDHQKLER 180
MATTVTCTRFTDEYQLYEDIGKGAFSVVRRCVKLCTGHEYAAKIINTKKLSARDHQKLER
Sbjct: 1 MATTVTCTRFTDEYQLYEDIGKGAFSVVRRCVKLCTGHEYAAKIINTKKLSARDHQKLER 60

Query: 181 EARICRLKHSNIVRLHDSISEEGFHYLVFDLVTGGELFEDIVAREYYSEADASHCIQQI 360
EARICRLKHSNIVRLHDSISEEGFHYLVFDLVTGGELFEDIVAREYYSEADASHCIQQI
Sbjct: 61 EARICRLKHSNIVRLHDSISEEGFHYLVFDLVTGGELFEDIVAREYYSEADASHCIQQI 120

Query: 361 LEAVLHCHQMGGVVRDLKPENLLLASKCKGAAVKLADFGLAIEVQGDQQA WFGFAGTPGY 540
LEAVLHCHQMGGVVRDLKPENLLLASKCKGAAVKLADFGLAIEVQGDQQA WFGFAGTPGY
Sbjct: 121 LEAVLHCHQMGGVVRDLKPENLLLASKCKGAAVKLADFGLAIEVQGDQQA WFGFAGTPGY 180

Query: 541 LSPEVLRKEAYGKPVDIWACGVILYILLVGYPFPWDEDQHKLYQQIKAGAYDFPSPEWDT 720
LSPEVLRKEAYGKPVDIWACGVILYILLVGYPFPWDEDQHKLYQQIKAGAYDFPSPEWDT
Sbjct: 181 LSPEVLRKEAYGKPVDIWACGVILYILLVGYPFPWDEDQHKLYQQIKAGAYDFPSPEWDT 240

Query: 721 VTPEAKNLINQMLTINPAKRITAHEALKHPWVCQRSTVASMMHRQETVECLKKFNARRKL 900
VTPEAKNLINQMLTINPAKRITAHEALKHPWVCQRSTVASMMHRQETVECLKKFNARRKL
Sbjct: 241 VTPEAKNLINQMLTINPAKRITAHEALKHPWVCQRSTVASMMHRQETVECLKKFNARRKL 300

Query: 901 KGAILTTMLATRNF SVGRQTTAPATMSTAASGTTMGLVEQAKSLLNKKADGVKPQTNSTK 1080
KGAILTTMLATRNF SVGRQTTAPATMSTAASGTTMGLVEQAKSLLNKKADGVKPQTNSTK
Sbjct: 301 KGAILTTMLATRNF SVGRQTTAPATMSTAASGTTMGLVEQAKSLLNKKADGVKPQTNSTK 360

Query: 1081 NSAAATSPKGTLPAALEPQTTVIHNPVDGIKESSDSANTTIEDEDAKARKQEIIKTTEQ 1260
NSAAATSPKGTLPAALEPQTTVIHNPVDGIKESSDSANTTIEDEDAKARKQEIIKTTEQ
Sbjct: 361 NSAAATSPKGTLPAALEPQTTVIHNPVDGIKESSDSANTTIEDEDAKARKQEIIKTTEQ 420

Query: 1261 LIEAVNNGDFEAYA-----FYFENLLAKNSKPIHTTILN 1362
LIEAVNNGDFEAYA FYFENLLAKNSKPIHTTILN
Sbjct: 421 LIEAVNNGDFEAYAKICDPGLTSFEPEALGNLVEGMDFHRFYFENLLAKNSKPIHTTILN 480

Query: 1363 PHVHVIGEDAACIAYIRLTQYIDGQGRPRTSQSEETRVWHRRDGKWQNVHFCGAPVAP 1542
PHVHVIGEDAACIAYIRLTQYIDGQGRPRTSQSEETRVWHRRDGKWQNVHFCGAPVAP
Sbjct: 481 PHVHVIGEDAACIAYIRLTQYIDGQGRPRTSQSEETRVWHRRDGKWQNVHFCGAPVAP 540

Query: 1543 LQ 1548 (SEQ ID NO:2)
LQ
Sbjct: 541 LQ 542 (SEQ ID NO:4)

FIGURE 2C

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Hammer search results (Pfam):

Model	Description	Score	E-value	N
PF00069	Eukaryotic protein kinase domain	306.2	3.9e-88	1
CE00022	CE00022 MAGUK_subfamily_d	293.8	1.3e-86	1
CE00359	E00359 bone_morphogenetic_protein_receptor	15.0	0.0015	1
CE00031	CE00031 VEGFR	0.9	2.1	1
CE00287	CE00287 PTK_Eph_orphan_receptor	-65.4	0.00046	1
CE00292	CE00292 PTK_membrane_span	-77.0	0.00018	1
CE00291	CE00291 PTK_fgf_receptor	-93.1	0.0021	1
CE00286	E00286 PTK_EGF_receptor	-132.2	0.0059	1
CE00290	CE00290 PTK_Trk_family	-161.3	0.00033	1
CE00016	CE00016 GSK_glycogen_synthase_kinase	-196.7	9.2e-06	1

Parsed for domains:

Model	Domain	seq-f	seq-t	hmm-f	hmm-t	score	E-value
CE00359	1/1	132	186 ..	272	327 ..	15.0	0.0015
CE00031	1/1	133	205 ..	1068	1139 ..	0.9	2.1
CE00286	1/1	14	252 ..	1	263 []	-132.2	0.0059
CE00290	1/1	15	253 ..	1	282 []	-161.3	0.00033
CE00291	1/1	14	267 ..	1	285 []	-93.1	0.0021
CE00292	1/1	14	267 ..	1	288 []	-77.0	0.00018
CE00287	1/1	14	270 ..	1	260 []	-65.4	0.00046
PF00069	1/1	14	272 ..	1	278 []	306.2	3.9e-88
CE00022	1/1	10	305 ..	13	316 ..	293.8	1.3e-86
CE00016	1/1	1	343 [..	1	433 []	-196.7	9.2e-06

FIGURE 2D

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1 GAGCTGCTGT GTCTCTGTCC CCAGGGGCAG AGGGGCTGTG GGGTTGCAGG
51 CTCAGCGTCT GGGACTCTGG GGTGAAGGCT CAGCCATGCC CTGCAGACAC
101 CATGGGGCAG GGCTCAGACC TGTGCACCTG TCTCTTGCAA ACCACTGTTT
151 TCTCTGTTTT GTAACCCCCC ACCCAACCCC ACATAACACC TCTGGGTTTA
201 AACACATGC ACCCTTGTGC CGGTCACTC CCTGCAGCCG GAGAACCTGC
251 TTCTGGCCAG CAAGTGCAAA GGGGCTGCAG TGAAGCTGGC AGACTTCGGC
301 CTAGCTATCG AGGTGCAGGG GGACCAGCAG GCATGGTTTG GTGAGTGCCA
351 GGGCAGGGT GTGTTGGCTG GCAGTTGGCA GGGCAGGAGG TGATGCTGAC
401 AGCCCCTTGT GGCCTCTTCC CCTCTCTCTA GGTTTCGCTG GCACACCAGG
451 CTACCTGTCC CCTGAGGTCC TTCGCAAAGA GGCATATGGC AAGCCTGTGG
501 ACATCTGGGC ATGTGGTGAG GCCTGGCCTG AGTTGGTGCG GGGCAGGGCC
551 TCGGGTGATT CAGGACTTCC CACCTACATC CTGGAGTGTG CAGTGGCCAG
601 CACGTCTTGC TCTCATCTGG GTTTATCTGT GTCAGACCTG CCCTTGAGCT
651 GCCCTGGCAG GGGTCTGCCC ACACAGCCAA GAGCCCCCTT TCCACCCAGA
701 TTAGAATTGC TCACATGAAC CTGGCGCACC CCAGTGCTCG CCTGCGCTCA
751 GCAGAGGTCT GGTCCAGAAG TGTGGTGGGT GGATGGGAGT GGAGAAGAGA
801 GGTACAGGGC TGTTGGGCCA TGGGCAGGGC CACCTCCTTG GGTAGGGGTC
851 TCCTCCCACA GAGTGGGGA GCAGCAGAGG GGCTTGACAT CACCCTCATC
901 CCTGTGATAG TGTGGGTGTG GGGCAGAGGT CAGGGGGCCG GCTGTGCCCT
951 TCTACCCAG TGTCTGTGTC ACAGGTGGGG GCAAAGGAAT GCTGAGGACC
1001 CCAATGCCCT CCCAGGGCCA CAGGAGCTAG GCAGTGAGGG TGCAGGGCAT
1051 GGGCTTTCATG GACGGTGGCA CCCTGCAAGT GGCTGCGGTG CTCACAGGCC
1101 CCATCCGCAG GGGTGATCCT GTACATCCTG CTCGTGGGCT ACCCACCTT
1151 CTGGGACGAG GACCAGCACA AGCTGTACCA GCAGATCAAG GCTGGTGCC
1201 ATGACGTGAG TGCACAGCC CCTCTCTGAT GAGCTCCCTT CCTCCAGGTG
1251 TGGCCGGGTG AGGGCAGCGT GGAAGAGGC TAGGAGTGGG GTGAAGCCAC
1301 CTGTGGCCAG GTCCTGGGTC CTGCTCTCCC AGATTCGTGG CTGGAGATGA
1351 AGCCCCTTGG AGAATTCTTG CCCCTGCCTG AGAGGGAGCT TCAGGCCCCG
1401 CCGGGGCGCT GTTTCCTTCT GCAGTTCCCG TCCCCTAGT GGGACACCGT
1451 CACTCCTGAA GCCAAAAACC TCATCAACCA GATGCTGACC ATCAACCTG
1501 CCAAGCGCAT CAGAGCCCAT GAGGCCCTGA AGCACCCTG GGTCTGCGTG
1551 AGTCGCCCTT CAGTCCCATG GTGGGGAGGG GGCTCCTGGT GGAGATGGCC
1601 TCAGACCACT CCCCTGGCAA GGACCCCAAG AGGGTCCTGT TCCTGACATC
1651 CAAGAGCTCC CTTGGGTCCC CTGGGTGCTC CTTGTGGCCT CTGGCTTGGG
1701 ACATACCAGC ACGTTTGTGA GGCTGGGGC TTGGAAGGCA TTAGAGGGTA
1751 GAGGTGATCC CTTCTCCCA ACTGCAGTCC TGTCTGTGAG GGGCAGAGTG
1801 GACGAGGCAA GGGAGAGACG AGTCTTGAAG TCCCAGGCGG GTGGGGACAG
1851 ACAACCTTG CCGCAATGGT GGCCGGTGGC TCTTGGCAAG TGGGGACCCC
1901 AGGGTGCCAC AAGCCTTGCC ACCCTGGCCT CTCCCCGTG CCTCGGGCTC
1951 GGCTGCCATA TGACCACCCA TTTCCCCACA GCAACGCTCC ACGGTAGCAT
2001 CCATGATGCA CAGACAGGAG ACTGTGGAGT GTCTGAAAAA GTTCAATGCC
2051 AGGAGAAAGC TCAAGGTGAG GCCCTGGCCC CTAGTCCAG GCACGGCCAT
2101 GCTTCTCTGT GTCCCTCTGG GCTGGAGCAG GGGGGCCTTG GGGGGTCTGG
2151 GCAGACCTAG GGGTTACTGC TGCCCCAAG ACTGACTGTT AGCAAGTCCC
2201 AGACTGGATG CATCAGGTGA ACTCAGGCCA GCTTGGGAAT GAGTCCAGAG
2251 GGGCCTGGG CCAGGTGTGG CTCTCCTAG TTGTCTGTGC CACCTCCTAG
2301 CAGCCCTTGG AGGAGCTGTC CTGAAGCGCT CGCTGTGGGC TCCTACCCCG
2351 GGCTCTGCAG GCAGACTCA CCCTCTGGCA GTCACACTGT TTAGTACAAG
2401 CAAGTCCGAA GCTTCCGGCT CAGACAGGTT TGGTAAGGAG AGCAGAGCCA
2451 CACACACTGG TCTTGGGTGG GCTGGGGGAG TTCTGGGAGG GAGGTGGGTC
2501 CCAAGAGGT ATCCAACCTG CCTGCTTTGG TCAGGGCTGG CTCCGGTGAC
2551 CGCACACTGG CAGTCCCTCT ACTTGTGGGT TCCGGGATGG GGACTTGTG
2601 CCTGACTGCC CTCTGTGGT CTCTGAGCAG TTCTCCCCGG AAGCCCCAGG
2651 ACTGTTGGCC TGTCTGAGCC TGTCAGGAAA AGAAGGGGCT GTCAGGGAGC
2701 TGGACCCAG AGGAGCTGCC GTGGTGACCA GCTGTTCTGG TGACCCCTGA
2751 GGCTTGAGGG GTCTTGAAGC AGCTAGAAGC TGAGTTGGT CAACAGGTTT
2801 AGGCCCAGGG TGTGTGTAGT TCTGGAATA GGTGATCTGT CTCAGTGCGG
2851 CTGCTGGCTT CTGGAGCTC TTGCCTCTCT GGAAGGCTGA GGTGATGTCA
2901 GCCTCATGAC AATGAGGCTG AGCATCTGGG CAGGAGGACA GGGGTCTTAT
2951 CCTGGCCAGA AGCCAGCAGG GAACACTGAT GGGATAGCCC CGGTTTTATC
3001 TGTGTCTCTC CCCAGGGAGC CATCCTCACC ACCATGCTGG CCACACGGAA
3051 TTTCTCAGGT GAGCCTTCT TCTCCAGGGA GACAGGCGCT GCCCCCTCCC
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FIGURE 3A

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3101 TGCTGGCCCA CGCAGGAGAG CGCCTCCTTC CTCACCAGCC TCTCCACTCC
3151 TCCTCTGCGG CAGGCCTGCC CTCGGCGTCT GCCCTCAGCT CTGAGACCCA
3201 CTGCCCACCT GGCCCCGCTG GGCTCCCACC TTGGGTGATA CCACAGGGTC
3251 CAGCCCCCGG AGGCCATCAC CTTCGTGCTG GGTCTGTGTC CCTCCACCCC
3301 CTGAACACGA GCGTCTGTGC TGCCCCACTG GGGCTCACAG CATCGTGTGT
3351 GTCTGTCCAG GCGTTTGTGC GGCATCTATG TGGCCTCCTT GTCATTTTGA
3401 GTGCTCTGAA CATTGTGTTT TGTGCGGGAG GTGGGCAGAA GGGATGCGGG
3451 GTGATGCGGG AGGCTCGGGG GCCTCCTTCC AAGTTCCTGA TGAGCTGCAG
3501 CCTCCTGTCC CGGCTGCTCA GGGTGGGTGG TTGGGAAGCA AGTTCCTTTG
3551 GCAGGGGGGT GGGGCTGTGT ATAGACCCCT GAGGCCAGG GCGCTGGCAG
3601 ACCCATCGGG GCATGATGTT AGCCCCGAG TGGAGCCGGC AGCCCAGGTC
3651 TTGACAAGCT GCGTCTGTGG CTTCTCCGTC GTCCGACACT CCGTGTGCGA
3701 GCGTCTGTGA TCCGTCTCTC TCGTTGTCCG TTTGCATCTG GTGCCCCCA
3751 CCCGCCATCC TGTTACTTTT GCTGTGATGC TGTAATGCCG GGAACGCGTG
3801 CACACGGTCA CACCAACT AATAGGACTG TCCTGTCTGC TGTGTGCTCA
3851 CCACACCTTT TGGGCATGAG AAGCCCCAC TGGGGTTTTC TAAGGAGAAA
3901 GGAGGCAAAT GCTTTTCCGT GTCAATCAGT CCAATCTTGT TTCACTCTC
3951 TTGAGCAAAG GATTCTGGAA CCATCTGTCA CCTAACTTT AACTCTAATC
4001 TTCTTCTGCT TCCTTTGTCT CTTTCTTCC CTTACCTCGC CCACCCTCG
4051 TCTGTGTCCG CCCACCCTC CTTTCCCTC GTCTCTAACC CGGTGCTAAC
4101 AGTGGGCAGA CAGACCACCG CTCCGGCCAC AATGTCCACC GCGGCCTCCG
4151 GCACCACCAT GGGGCTGGTG GAACAAGGTA GATGTGTCTC GACCAGCGTC
4201 CCGCCCGCTC CCGCCCGTCC CTCCTGCCAG CATGCAGCCC CCTGCTGCAC
4251 GCAGCCGCTG GCGCGGCTCC AGAGCCGCCC CAGAGGCCGC CAGGCCCCCG
4301 GGAGCCCTGT CTCCTGTGTG GTCACATCCC AGCAGAGCCC ACCACAAGGG
4351 CAGGGAGGCA GCCCCAAGG CTCCTCGCCT GTAAGAGGAG GGGCTGGGCT
4401 AGGTGGCCCC TGGGCTACAC CAAGCCCTTC TGGTCTGGC CCCCAGGGTC
4451 TGGGGGTCCG GAGACCCCA TTAAGAATGG CCTGGGCCCC ACAGGGAGCC
4501 ACTGGGCCTG CTGCTGGGGG GTCTGAATCC TGAAAGGAGA GCCTTGAGGA
4551 GCAGAGCCAG AGAGGCAGAG GCCCTTGGGG CAGACACACA CCCTGCCCTT
4601 CTGGGGCCGC ATGGAGACGG TGGTCTGTGC TGCTGAGTCC TACACATGCA
4651 TGTCTGCCCT GAGCTGCCCT CCAGGACAAG CCGCTCTGGA GTGGGTGAGG
4701 GTTTTATGCA CCCTGAGGAG ACTTTCAAGG CTTCTCTTTG GGTGTTTCT
4751 GCAAAGTCTT CCTCCCTTGG CCTCAAACCC TGTGAGGGAA AAGGCCGGCA
4801 CTGGCCACCT GCTCCTCTGG GCTGTGCGGG GCCAGAGCCC AGAGGCCCAA
4851 GTTGGCTTCT GCCCACCTGC TGGCTTGTGA CCATGGGCAG ACCCCATGAG
4901 GGCTAGGCGA CCCCAGAGCC TCCTTGCAGC TCCAGCCTGA GCTGAAGGCT
4951 GGTGAGAGCT TAGGGCAGG CAAGCTGACA ACGCCTGGCC ACAGAACACA
5001 GAGGGCTACA GGGGTGACCC CAGATCCTCC CTGGGCTGAG CTGCTGAGTT
5051 CCCTGTCCGT GCCTCCAACG TGGGCTGGGG ACCCGGCAGA GGTTCAGGG
5101 TGCTGGAGAC TGCTTCCCC AGGCCTCCTC ATGACCACA GGGTGAGCAG
5151 CCTGGCCTTC CCAGCCAGAG AACCTCCTT CTGGGGAGGC CCAGGGCGTC
5201 CTCGGGGAGG GCAGTCTATT CTCCTCCCAT GAGCCCAGTG GACGTGTCTA
5251 GCAGGCAGCA CCCCAGGAGA GCCCTCCAC GTCTTCTCCA TTTGACAGGC
5301 CTTTCCAGAG CGCAGGCGGG AGGGGGCTGT GATTAGAAA GAGTGAGGCT
5351 AGTGGCTTCT GGGGAGGCAC TGCTGCCCAG GGGACAGTGC TGAGAGACAG
5401 CTGCCTCTAC GCTGCCCTGT GCGCGGGGCT CCGCTGCAA TGCCCGCCTG
5451 TCTGCAAGTG AACGTGGGGC GACGGTGCAT GAGGCCCTGC ATGTGTGGCT
5501 CCACCTTGGG CGCCGAGAGC AGCTCTGTCC TGGAGGGTGG TCAGTGCATG
5551 TGGACAGAGC CCAGCATGGC TGCTCTGGGT GACCAGCTAA GGGGACAAGG
5601 CAGAGGCAGG CTGAGAGGA CCACCCATCC TGCTAGGTCA GCCCAGCTCA
5651 GCCATATCAC ACGGCAGTGA GCATGGAGCT CAGTTCTCTG CCAATGGCAG
5701 CTGAGTCTAG TACCATCCAG TCAGAGTCTG GTACCAGCCC ATGTGGCATA
5751 GCCCCCTCGG CCCGCAGAGA GACCCCGTCT GTCGAGTGTG CTTAGTTTG
5801 GCCTCTGTGG TCTCTCCTGC ATTGATCAGG TGTAAGGGCA TAGGAGACCC
5851 AGTGTCCGGC CAGCTGCAGG GTGGCAGCAG TTGCCCCGGC CTGGAGACCC
5901 GGAATGGGC AGTGCCTTCC CAGGATGGAG GGCAGAGGGT CTCTCCTTGT
5951 CCCACAGAGG CCTGCAGAAC CCCCACCCA GGTGTCTGAG ATGCCTGTGA
6001 CTGCTCCGCC TACCCTGGGC TCCTGCGGCA CCTAACGCAT GCTTTGAACT
6051 TGAGACACAG AAAGGAAGTT CCCGTGCCCT TGAATGCTAG TGTAGATGGG
6101 CATCGACAGG ACTCTGGCCA CCGTGAATCT GGAGTTAGTC CCAGGCAGAG
6151 ATGTGAAATG AGCAGCCCC CAAAAAATG TTGGCCGGGA GCCATGCAC
  
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FIGURE 3B

Docket No.: CL001204DIV
 Serial No.: To Be Assigned
 Inventors: Wei SHAO et al.
 Title: ISOLATED HUMAN KINASE...

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6201 CAGGAGGGCC GGGCCCATGC ACCCCACACT GCGCCCAAGG CGTGACAAG
6251 CGATTGTTTT AAAAGCGGGT TCACAAGGAA GGATGTTTGG GAAC TGACTG
6301 AGACAACAGG GACGTCTGCT GCAGGGCTTC CCAGAGCTCT GATGGCAGCG
6351 TCGGCCTGAG TCCTTCGAGG AGGGCTGGTT TGTACGTGGC ATTTGCTGCC
6401 CACTGGACTG TGAAC TTCTG TCTTTTTATT TCCCACTGCT GCTGTGGTAC
6451 ATCTCCAGTA GCATAGTTTG GAAATGCAGG TTTTGATAGA CTCAAGGATC
6501 TAAATAGAAC CCTCTTAGTA CCAAGGACTG TCCGGGGTCT CTGCCAGCCC
6551 CGCCGATGGG CCTAAGTGTG GTGCCTCCTT TCCTGTGAGA ATCTTCTGAG
6601 GACATGCCCG GGGAAAGAGC TCAGTTCTGC TGCTGCCTAG GGTGCCATGC
6651 TGGCCCCGGT TCCAATGCAG AGCCTAGCTG GAAGTACCGC TGGGTTGGCG
6701 GAGGCTACGT GCCTGACTGT CCCCTCGGGG GTGGGGTGGA ACTAGCCTTC
6751 TGAAACCGCC TGCTTCAGTT GGCCACAGCT TTTTGAAATG TGTGTTTCTG
6801 GAAGGGGAGT GGTCCCTTCC TTGCCTGTTC AGCTCCCCAC GACAAATGTC
6851 CTCAAGGCGA GGCTGGATGC TTCCTTCCTC AGGCTCCTAG GAGGAGCCCG
6901 TCCCCCAGCT GTGTCGGGCA GCTGGTCACC AGCAAGGACA GGATCCCTCA
6951 GCTGCAGCCT CAGGCTGGCT GGCAC TGGG GGGTGTTCCT GGGATGAGTT
7001 GTGTGTACTG GAGATGGGAG GGGAGCTGAG AGGGTGGGAT GCACAGACAG
7051 GAGAGGGGCA TGTGGGGGTC CTGGAACCCCT GAGTTCCAAG TCTTCAGGAC
7101 TCTCCCTCCA TAGCAAGTTA CAGGGAAGCA GATTTGAGCT ACAGGGAAGC
7151 AGATTTGAGC TGCAGCGAGG GGGAGGGTTT TCAGTCTGTG CTATAGGGAA
7201 GTGGGCAGTC GGCATTTCTG GTCTGGGAA CTCACTGGGC AGGGCTGCCT
7251 TGGGACATCA GGGAGGTGGC GCTGTGCTCA GCTTCACCAG GAGGGGCCTT
7301 AGGCCTGGGG ACGGAGAGTG ATGCCTGAGG CCCCTCTACT TCTCCATGGA
7351 TCCTGGGAGG GACTCCTGGG CTGGATACAA AATTGTGTGAG AGTTAAGAGA
7401 TCTGTGAGGA AGGGGAGGCT GGAATAGAA AGTGTGTGCC CACTGCACAT
7451 GGGGTCCGCA GGGCCACGTG CAGCCACTGC GCAGGCACAA CCCCAGTCCC
7501 CACAGAGCCC AGGAGGGGCC AGAGCCATGG AGGAGGCAGC ACTGGGCATT
7551 TGGACAGGGA GGGGGTGGTC AGCAGGCAGC AGGCCCAGGC CTGTCTATGC
7601 CCTGCGGGGT GCAGCCTCCT GATCTCCACG GCAACCTGGA GCACCCAGCG
7651 TCAGAACCAC CGGGAGGGCT TATGGAACAG ATGTCCAGCC CTGCAGAAGT
7701 TCTGGCTCAG GAGGGCGGGG TGGGCCTGGG AATTGTGCATT TCTGACTGTA
7751 CAGGGCGATT CTGCTGCTGC TGCTGCTGCT GGGGTTGGGG GAGGATCCCA
7801 TTTGAGAAGC GCTGCAGTCC TAGGTTGAAA CGTGCCGTGC TGTCCCCACC
7851 CAGGCCTGCA TGGGCAGCAC GGGATCCCCA GGCAGGAGGA CCCAATTTCa
7901 TGGCCTGGCC AGCCAGGGTC CTGGAGCCAG GCGGTGGGGG AGGGATGGGG
7951 GATTGCTGTG CCACCTTCCT TCCCGGCTTG GCCCGGGGGC AAGCATCCTC
8001 ACACTTCCCA TGTCGTCATC CCCTTGGCTC CAGCCTGGCT GCCTCTCTAA
8051 CCCTGCTGTA CCGGCTGGCC GCATGGCCCT GGCTCTTTTT GGTGAGCGTG
8101 GTCCAGGACT GGTGACCTGT GAGTCTGGG CCCGCACTT TGCGCCCTTG
8151 CCCGAACCAA CACAAATCTT GTTTTCTCTC TCTCTCTTCC TTCTCACTC
8201 CCTCCCCTTC TCACCTTTCC TTTTCTGTAA GGTAAGCTGA CTTCTCTTTT
8251 TGGTTTTTTA TTTATTTTAA TTTTCTAGTT CTGTAATTAA AATCCTAACA
8301 GCCATGGAGG GTGTGGGCAC CGGGGGCTGG GGCCAGGCCC CTCTGACCTC
8351 TGAGGGGGAA TGCTGGGTGA GGCAGGGGCC CCGCTGCTGG GACCAAGTAT
8401 CCTCAGGGG TTGTGGGCAG AAAGGCCTGT GCTGGCCCCA GTCAGTGCAC
8451 AGAAGCGGCC CCAAGGCCAG GGCTGCTGGG CAGCTCGGAA TGAGGGCGAG
8501 CAGGGCTGCC CTTGGTGCCT GAGCCAAGGA GCCAATGGGA CAGACCTCTG
8551 AGCCTGGGTG CCAAGTATGA GGTCTGAGAC AGGGTGAGCG CCTGGGCTGG
8601 GACAAGGCCC TCTGAGTGGG CGGCCAGCTG CAGCCCACCC ACCCCTACCC
8651 CAGGAAGGCA GGGCCCGGGA GGCATGACC TCTGGGGTGC TGGCTCAGCT
8701 GCCCCACCC CAACCTGACA CCGCTAGTCC TGAGTTCCCA TCAGGGAGGA
8751 AGCAGCATCC TGCTTCTCTC TAGGAAGAGC TTGCATGTGG CCCAGAAGCC
8801 AAGGGGGCTC CCCAGCACCC ACGGGCATCT CTGGGTCTGG TCAGAGGAGA
8851 AATCTGGATG CTTGCAGGAG CCCCAGGGTC ATGGAGGAGG CTGGAGACAG
8901 GGCTGTCTTG GGGTGATGGG ATGGCCCCC CACCTGCTCA GAGCCAGCCT
8951 GGGTGTCTGA ACCACACTTG CCTCAGGACC CTGGGCTTGC TCCTGGGGAA
9001 AGAGTGGGGT CAGGCAAAGG GGTGGGGTTG CGCTGCAGCG AGACCCAGGC
9051 CCATCACTCA CCATACCTTC TTCCTCCCA TGCAGCAGCC AAGAGTTTAC
9101 TCAACAAGAA AGCAGATGGA GTCAAGGTGA GGCTCCAGCC GGGCCCTGTG
9151 GTGCCGGGGA GCCCAGAGCC TGCAGCTTCA CCCCCACGCC CTGGGGCTCC
9201 TGCTCTGGAG TCCCCCTCCC CCCATGCCCT GAGAGACAGG GGACAGGGAA
9251 TGGCGAGTGA GGGGCTTCTC CCACCTAAGA GTTCCTCTTC CCTCTCTCCA

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FIGURE 3C

Docket No.: CL001204DIV
Serial No.: To Be Assigned
Inventors: Wei SHAO et al.
Title: ISOLATED HUMAN KINASE...

9301 CAGCCCCAGA CGAATAGCAC CAAAAACAGT GCAGCCGCCA CCAGCCCCAA
9351 AGGGACGCTT CCTCCTGCCG CCCTGGTACT GAGCTCCTCA AATTCTGCCT
9401 CTCAGCCCCCT CCTACGCCCC TGGCTGTGTG ATTGCCGCTG GTCAGAGGGG
9451 GCCGGGTGAA GGTGGGGTCT GGCCCCGCTT GGCTGTCTG ACAGCACTCG
9501 CATGGCCCCC GCCCCCATC CCTACCGGT GGTGAAGTGG AGAGAAGAGG
9551 CCACTGTGTGT GGGGGGCTCC AATTACAGACA GGTTTAGGAC TGCTCTGGGG
9601 AGCCCCTGGC TGAGACCCAC AGATGTTGGG GTGCAGGGGA GAGGCCCAGC
9651 CTCCCACCCA TGTTGACTTG TGGATGTCTC TCCAGGAGTG TTCAGGAAGT
9701 CAGTGAGGCA GAAGATACCC TCTCCCCACC AGGACCCAC CCTCAGCTCC
9751 TCCACCATCC TCAACAGGCC GACCCACAGA CCAC'TCCGAA GGTC'TGGCTT
9801 GGTGGGGCTG GGCCAGGATC TGCAGGGGGA ACAGCCATA GTGGCACATT
9851 CCACGGCCCC TGGGGAGACG GGGCCACGGT GGTGCAGTAG AGAGGTGTCT
9901 AAGCCAGTGG CAGCCAAGGG GAGGGCTTGC CGTCACCTCT GTGTTCCCTC
9951 AGTGCTGCTC TGTGGCTGCC TGAGAGGCAG GGCTTAGGGG CTCCCTGCCG
10001 GGGAGGGGAG GGGTCCCCAC CATGCTCCGC TCCAATGCG CCCCTCAGTG
10051 CCCCTTGCCC TGGGGGCTCC TACAGGTGAA CCCTATAGCA GTACTCCCAA
10101 GGATGTAAAG TTGTGGCTGG TGGGTGCCGG CTTTCTGCT GGGGCGCTGT
10151 GCTGTGTCCC CTGAGTGTCT CTAAGAGCTT TGGGGCTTG TGGCCCGTAG
10201 GTCCCCATAT TTGCTGAAG CAGGCTTGGT GTCCCCTGAG AACCCACGGC
10251 CAGGCTTCGG GAGCCAGCCC CAGACCGCCC ACGGGAATAC TGGGTTTGCC
10301 AAATGGCCAC CTTGAGACCC AGGAGAGGAG AGCGGTCTCG GGAGGGGCGA
10351 GCTGCTCAGA GCAGCCAGGC CGTGGCTGGA GGGTGGCTG GTGCAGCCTA
10401 CCTAGGGCCT TCCAGTGCC AGGGCAGCCC ACGTGCCAGC CTCACAGCCA
10451 GCCCCATCTC GGACCTGTCT CATCCCATGT GCCACCGCA CCCCCATGAC
10501 ATCTTCAAAC CTGTGCCCCC CACCACGCTG GGGCACAGGT TCAGGCAGTA
10551 AAGGGTAGGG AGAACCCTC AAGACCGAGC CTGGCTTCTC TGGCTCCAC
10601 ACACATTGTG CAGCTTGTCT GGGCCCCACA CGGTCCATCT CCCACCCTGG
10651 ACAGCAGCAC CTCCGCCAGC CTGGACAGAG CTCCTGTCCA TTCCATCCCT
10701 GCCGGCTGAC CCAGGCTCCT CCCCCAGCTG CTCCACGCCG CCTCCATCCC
10751 TGTCCCCCAC TCTGCTCTGC ACTTCTTTCT CGCAGGCTCT GGCCACCCAC
10801 ACCTCCTCTG TCTCCTGTCT CCCCTCCTGG TGGTCTCCGC TTCTCCTCT
10851 TCTCACTTTC CCTCTCTTTC CTTCTCTGT GTCTTCTCTT TTCTGTAGGA
10901 GCCTCAAACC ACCGTATATC ATAACCCAGT GGACGGGATT AAGGTACTGC
10951 CCCACTTTCC TCCTCCCGCT TTCCCCAGGC AGGAGGCTCC AGGCCAGGAG
11001 AGAGGTCTGG GGCAGCATTT GTGCCAGAGT GGAGGGCAGA TGTCCCATGG
11051 CCCTGGCCGC CCCTCCCCGC AGTACGGTAG GGCCCCAGTC CGTCTTCGTG
11101 GGCAACAACA GGACAGACTG GCTCAGGCCC CAGGCGCGCC CCTGGAGGTG
11151 CTTGGCACAG TTGGCCCCGG TCCCCATGTG GCCGACACTC TCAGACCAGG
11201 GCTCTGCCGT TCCCACCTAC GGCAGGCAGT AGGGCTTCTT GAGGTCTGGA
11251 GCAGGGCCTG CATCTCAGGA GCTGCATCCT TGGCCCTCCT GGCTGTCTCT
11301 CACCCACCT CCCTCACGTG GCCCCAGTG CTTCTGTCTG AGCAGACCCT
11351 CCCTCCTCTG CTCCCCCTC TGCTCTGGCC ATCAGCTCCC ATCACATTGG
11401 CATCATCACT CTGGGGCCAG GGAAGGGGCT GGCTCTCTGG GGTGGTGGGA
11451 GGGATGGGGC CAGCAGCCAA GCCATTTCGA GGACTTCCAA AACAGCGCCA
11501 CTACACCCAA CACGGCCCTC CAGCCCAGCT CCCACCTAGG CCTGGGCTCC
11551 TTACAGAGCC CCCAGAGTGC CTCTGTGGGG ACCCCCCACT TCCTTCTGGC
11601 CAGTGCCACC ACCCAGCCCA TCATCAGAAG ACATCTTTCT CCATGGCAGG
11651 GACCAGGGGG TCCAAGGGGC ACCCATGGTG CTAGGCACCA GGGCCTGGGC
11701 ATTCTTCCCA TCTGGCAGCT GGGGATGGGT GCCCCTGGA CCCGTGTGTG
11751 TCTGGGGTGG GTCATGCTCT CTGCAGGACT CCTAAACAAC CTTCTGGGCT
11801 GTGGTGAAC CTGAGCCTGC ACCTAAAAGA CTTGTAGTTC TGGTCTAGGG
11851 CCTCCAAGCA GTGTCCAGGC AGTGTCCAGA CCAGGGGGCG GTCCCCCAGG
11901 GACCTTGTA GATGTTTCTCT CTGAGGAGCA GAGCAGGCCT CCTGGGGACC
11951 TGGGGGATGG TCTTTTGAAG GGCAGCAGCC CTGGAGCAGG GTGGGAGAGT
12001 CTGGGGCCAC CTCTGCCCTC TAAGGCCACC TGAGAGGTGA GGCCGGGGCC
12051 TGACTGGACG TCCAGTCCCA GAGGGGACAG TGCCCTGAGG GAATGTGGGC
12101 GACAGGAATG CTCTGCCTGG GGCCAGGCCA AGGTTCCTGG AGCCCTGTGC
12151 GGATCTGCAG AGCTCCTGGG AACGCCCTAC CCTGTATTTC GGATGACACC
12201 GGCTGCTGCT TCATTGGAAC CAGCCAGTCC CATTGTGTTT TACGTCTTGG
12251 AATTTCAAAA AGCCCATTTT CCTCTCTTGT TAAAGAGTCA GCTGAGCATA
12301 CCAGTCTCTC TGCCAGGCTC ATCTTGCTGG GAGAAGTGA GCCCTCATGT
12351 GTTGGGGATG CAGGGTGGCC ACAGCACTAG GGTGGCAGGG CCGGCTCGG

FIGURE 3D

Docket No.: CL001204DIV
 Serial No.: To Be Assigned
 Inventors: Wei SHAO et al.
 Title: ISOLATED HUMAN KINASE...

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12401 ACTCCGTGCC AGCCTGTGCT GGCTGCCGTG AGAATGCACC CTGGTGAGGG
12451 GCGCCCTCCC AGGGACCAGC ACAGAACTGG GTGTC'TTCTC CGGTCACTGC
12501 CGCATGAGGT CCACAGAGCT GGGGCCCTGC AGCCGCCAGA GGGCATGTCC
12551 CCTGAGCCCC TGGCCTTTAA GCCCCGTGGA AGCAGCCGAG GCAGAGATCA
12601 GCTTCAGGAG CTGGGCTGGT CCTGACACAG GCCAGCCCT GTCCACCTGC
12651 CCTCAGCCAC GTCCCACCTA TCCTTGCCCG CATCCTGACC CGCTGCCTCC
12701 CGTGT'TTCTT CAGGAGTCTT CTGACAGTGC CAATACCACC ATAGAGGATG
12751 AAGACGCTAA AGGTACCTGC ACTTGAGTCC TTGCCCCCCC AGCGGCCTTG
12801 GCATTGCTGG GTTGCTCTTT GAGGTGGGTG GGACTTGGGC AGGGTCAACT
12851 CTCCTGCGAC GCCTAGTTTA TGCATGTGTT GAGGGGCTCA GGGACCCTGT
12901 AGCTGTAATC CTGCTCCAAG CCTGGGTGTC AGGCCTGCCC AGAGCGGAGA
12951 AGCATGGCAG AGATGCCGA CAGCTGGGCA GTCTCGGTCA CCGCATCCAA
13001 GTGAGGAAGC CACGGCTTTG CATGGAGGCA GGTTCCTCCAC ACCAGGACCC
13051 TCACGGGGAA ACAGGCCCAT GGGTAGAATT TGT'TCCAAGA TGCTGTCTTT
13101 GTCTTAAAGC TCCTTAAAGCT TGCGTTTCTG TCCAGCATGC ACTTGCCAAG
13151 TGGCCGGGCA GCTGGGTGAG TGTTTCCGTG TTTGCCTTTG CTTAGCCAGG
13201 AGTGTCTTGC TGCGGTGGGT TTCTGCACCA CAGATTCCAG GGCCCCCTCC
13251 CTTGCTCACC CAGGCCAATG TCTTGTGTGT TCCCCAAGAG GCCCCAGGG
13301 CACCAGGCAC TGGGCGATGC TCCATGGATT CTGCCGCTC CAGACCACCC
13351 ACATGGGGCC TCCTGACCCT CATCGCTCAC ACGGTCACCT AATAAGCCTT
13401 ATGCTGTTCT CAGGGCTACC CTGGTGCCCA AAAAGGGTCA GCCACTCTGC
13451 CAGTTT'AGGG GAGAAA'ACTT CTCACCTGTC CAAAGCATAG CTTTGTCTCT
13501 GCCCCGCCTA CCCAGCTATG ACACTGTCCC TGAGCAGAGA TGAGCACAGG
13551 ACTTTGGGCC CTGGATGCCG GAGAGTGGGT GTTTGTGTGA TTCCCTTGCA
13601 GTCTGGAACA GGCCCCAAG GCAACAGCAT GAAGGCTGTC CAGAGGTTCT
13651 CCATCACCCCT CAGCCGAGTG GGGTGTCTAG CAGTGAGGGA GGGGACCTGG
13701 GAGGGGGGCC CAGCCTGGAT CCTGCAGGGG AGAAGAGAAG ACAGCCAGAA
13751 GCCAGCAGCT GTGGCTCAGA TCTGAGCCCG AGCAGCCTCT CGAGGTGGAG
13801 GCAGACACCC CCCACCCAC CCCGTGCAGA AAGAAGCCTT GCCAGCCTGC
13851 CCTGAGGCTG GTACAGAGTC CAGGCAGGCT CAGTGGCCAT CATGCCCTA
13901 CGATGACTGT CACTCCCTCT CCGTGCGCCT GGCCTCTGCT GGCTCTGGCC
13951 AGGGGTGGTC ACAGCACTAG GGTGGCAGGG TGCCCTCTGA CTCTGC'CCA
14001 GCCTGCACTG GCCTGTGCTG CCCTGGCCTC TGCTGGCTCT GGCTCTGGCA
14051 CCGGTCCCCT GTTGGCTCCT TCAGCCTTCA CATACTGCT GCGGCCACCA
14101 CAGGCCAGG ACCCCACAG GGTGGCCACC CCACCTCCAC CCCAGGAGCC
14151 CCAGGTATCC AGCTGTACC CCCTCCCTCC CTCCTGGCCT CCCCCTGTCC
14201 TTCTCCAGTT GCCTTCTTTT CCTGCGGGCG CACCACCAC CTGCCTGCCT
14251 CACCTGTTCC GCCTCAGCCC CCAGGGTCCC CGACATCCTG AGCTCAGTGA
14301 GGAGGGGCTC GAGGCCCCA GAAGCCGAGG GGCCCCTGCC CTGCCCATCT
14351 CCGGCTCCCT TTAGCCCCCT GCCAGCCCCA TGTAAGTAGC CTGGGTCCCTG
14401 CTGCTGTGGG GGTCA'TGTG GAGGGCTGGC AACCCTTAG AGGGGCCACT
14451 CCAGAGCCGA GGGCAGGCTG AGCGTGGACC CTGGCTCCAG CCTCATCACC
14501 CCACAATCCC TCAC'TGGGCG TTTCCAGGGT GGCCCCAGCC CATCGAGCCC
14551 CACCTCTTTG TGAGGAGGGC CCTGGACCAC TTTCCTGCTC AAGGCCACTG
14601 GGCAGGATGG GAGGCCCTGG AGGCTCGGGC CTCAATTCCA GTCTTCAGGG
14651 TCGGTGCAGG CCTCACTCCA CCTCAGCTTG CGGGCGGGGG GGCTCCCTGC
14701 TATTGAGGCA GGCTCTGATT CAGGGCCTGA TCCCAGGGCC CAAGGGGTCT
14751 AGAACACGGG ACCCTCCCA CTGGCCTCCT CCGCCTTGCC GCCGCCTCGT
14801 GTGTCTGTCT GCCTCATGTT CACGTCTCAT CTGTTCCACC CCAGCCCCCA
14851 GGGATCTCTG ACATCCTGAA CTCTGTGAGA AGGGGTTCAG GAACCCAGA
14901 AGCCGAGGGC CCCCTCTCAG CGGGGCCCCC GCCCTGCCTG TCTCCGGCTC
14951 TCCTAGGCCC CCTGTCTTCC CCGTGTAAGT AGTGGCCCCC AGGCCTGCCG
15001 CCTCTGTCTG CGGACAGCTC CCTGCGAATG GCCGGCGCTC AGCAGCTTCC
15051 CACCTGCATG CACGGCCCAG CTACCCTGCC CCGGCGCCGC AGCCTGGAGT
15101 CCTGCCCTGG CGGGGCTTCC TGTGGGCTCC CATGCTAACC AGCAGGGCAG
15151 CTCCTGGCTT CTCCCTAAGG GGCCCAGACC CCTCCACGGC TCCTGTCTCC
15201 ACTGCCACTC CCCCTCGCT GTCCAGCCCC AGGCCCTCT CCAAATGTC
15251 TGTCCCAGCC CTGGGCAGCC CTGGCCCCCT CGAGGCCCTC CATGCCCTA
15301 GGCCCTCTCT GCTGATCACT GTCCCAGCCC CACAGACTTC ACACCCACCC
15351 AGGGGCCCTG CCCATGGTGC CCAGGAGCTG CACTCAGGGC CACCCTGGTT
15401 CCTGATGTGG CCCC'AACCC TGAGCACCCCT CCCTCAGTCT AGGAGGCTGA
15451 GGAAGGTGCC AAAACTGGAA CCCCAGACCAG GGTCTCTGGA GCTCACC'AAC

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FIGURE 3E

Docket No.: CL001204DIV
 Serial No.: To Be Assigned
 Inventors: Wei SHAO et al.
 Title: ISOLATED HUMAN KINASE...

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15501 AAGGGGATAG TACGGAGAAT CATAAGCCTG GCCTCTGCTG ACCTGGGCTG
15551 TCCTCATGGG GCCAGGCCAG GCCTCCTCTG TAACGCCCGT GACTCCCTCC
15601 TCTCCCTGTA ACCCCGTCCA GCGTTCCTCA AGGGCCACTT ACCTGACAGC
15651 TTCTTGCTGG CCAGCAGCCT CTCCCTGGAG GGTGCCCTCT GCGCCAGCA
15701 GCTTCAGCCC ACGCCACCCG ACAGCCAGAG CATCTGCCCT TCACTCCTGC
15751 AGCCTCCTCT CCACGCACCA CGCTGTCCGC AGCAGCACCC TCTGTCCCCC
15801 TGTCTCCCTC CGTCCCCCCA TATCCCCCTC GGTCAGCCTA CAACCTCTCC
15851 ACGTCCCCCT AAGTCCACGC TCTATCCCTA CATCCCCCTC TGTCCCCCAA
15901 ATTCCCCCTT TTCCCTCATT TCCATTTTCC TCCCCAAACT CTGCTCTGCC
15951 CCTCACATTC TCCCTCTGTC CCCCACACCC TCCTCTGTCC CCCACACCCT
16001 CCTGTGTCCC CCACACCCTC CTCTGTCCCC CATATACCCC TCTGTCCCCC
16051 ACACCACCTT TGTCTCCCTG CACGCCCTTT TCTGTCCCCC ACACCCTCTC
16101 TGTTCCCTAC ACTCTCCCTC TGTCCCTCAG ACCCTCCTCT GTCCCCCACA
16151 CTCCCTCTGT CCCCCACACC CCCTGTCCCC CACACTCTCC CTCTGCCCCC
16201 CAGACCCTCC TCTGTCCCCT AACTTCCCTC TGTCCCCCAT ATCCCCCTCT
16251 GTCCCCCACA CCCTCCTCTG TCCTCCACCC CCTGCCCCCC ATACCCCTTT
16301 CTGTCCCCCA CACTTCTCTT GTCTTCCACA CCCCCTCTCG TCCCCACAC
16351 CCCCCTCTGT CCCCAGACTC TCCCCTCTGT CCCCACACTC CGTCTGTCCC
16401 CCACACCTCC TGTCTTCCAC ACCCCCTTCT GTCCCCCACA CCCCCTCTGT
16451 CCCCATACT CTCTCTGTCT CCCCACCTCC CCTCTGTTCC CCACACCGCT
16501 TCTGTCCCCC ACACCCCTCT TGTCTTCCAC TTCCCCTCTG TCCCCACAT
16551 CCCCCTCTGT CCCCCTGCAC CTCTCTGTCT CCCTGCACCC TCCTCTGTCC
16601 CATGCACCTC TCTCTGTCCC CCACATCCCC CTCTGTCTCT CACACTCCCT
16651 CTGTCCCCCA CATCCACCTT GGTCCCCCTC CGCACCCCA TCCCCATGA
16701 CCCCCTCTGT CCCCACACCC CCTCTGTCTT TCCACACCC CCTCTGTCCC
16751 CCACACCCAC CTTGGTCCCC TCATGCCCCC CATCGCCTAC ACCCCACTT
16801 TGTCCCCCA CATGCCCTCT TGTCCCCCAC GTTCCCTTCT GTCTCCGACG
16851 TCTCTCCAT TTCCCGTTTC CCTCTCTGTC CCCCAGCTC CCTCCATCC
16901 CCCACATCCC CTTCTTTCCC CTATATCCCC TCTGTGCGCC CAGGTCCACC
16951 ATCTTCCCCC CACACCCCTC CATTCCTCCCT TCCTCCCCCT TGTCCCCCTG
17001 TGCCCCATCC CCCACATCTG CCTCTGTGCC CCTCAATCTC TGGCTTGGCT
17051 GTCTGCCCAT TGTCTCTCTC CTGCGTGCCC CCGTGCGCTC CCTTGTGTTT
17101 ACGTCTCTCT TGTTCGCCC CAGCCCCCAG GATCTCTGAC ATCCTGAACT
17151 CTGTGAGGAG GGGCTCAGGG ACCCCAGAAG CCGAGGGCCC CTCGCCAGTG
17201 GGGCCCCCGC CCTGCCCATC TCCGACTATC CCTGGCCCCC TGCCACCCCC
17251 ATGTAAGTAG CACCTTGAGT GGCCGTGGCA GCGGCTGCCT GGAGGGGCTC
17301 GGGGCGTGCG AGCCTGGCAG TGGTGCTCTG GGAAGGGCCA TTCTTGCGGA
17351 GGAGGGCGGG GCACAGGATC CCTCTGTCTG GTCCCAGGGA ATTGCTTTGA
17401 AGCACATGAA GGTGCCACTG GGTCTCAGAA AATGGAGGTT ATGGTTATGA
17451 AGTGTGTATG ACATATGTGT ATAGGAAGAG CGTCCGAAAG AGCAGGTTTG
17501 TTGCCGACCC CAGCATTCGC AACCCTGAGG TCCACAGCTT TCTCCTGATG
17551 GGAGGGGAAT GGGTGGCAA GGGTCTGCGC GTGTGGCAAG GGCTAGCAGC
17601 CCAGGAGCTG CTGGCTTGGG TCAAGGTGGA CCTGCTGGGC CGGGACAGAA
17651 AAGTGTCACT CCGGCCCTGA GACGCTCTAG CATTAGAGCT GTCCAAGTCC
17701 AGACAGCAGG GAGCAGGTGG GGATCGGGAG GCGCGGATCT GGGGGGAGC
17751 TGGGGCCAGG CTGAAACAGA GCGGGCGGGA CAGGAAGCAC AGGCTGGGCA
17801 GCCTCCCCGG CCAGGGAGGA GCCAGGCTGG GCCACCTCCC GGTCTGTCTG
17851 CCGACTACCC GCAGTATCAC TTACAGGGAT GGATGACATC CCAGGGCTGC
17901 TGCCACCCCC ACCTGTGGGG AGACACCAGA CTGGGGGTGG TGTGGAGATA
17951 CTCTTAGAGA AGAGGCTGCT GGGCCACGGG CTCGGCATGG CAGGGCAGTG
18001 GCTAGGTAAG TACTTGAGGG ACAGGTGGGG TCTGCTTGCC ACCGTCCCCT
18051 CTGCAGGCTG GGCCTGGGGG CTGCTGCAGG CGGCCAGGGC AGAAGGGTGT
18101 GGGGAGAGTG AACCACAGG AGCAGCGGCT CGAGGAGGGG GATGCAGGCT
18151 GCAGGCTCAA AGGGGCACTG GATCCACCCT GGGTGCCCGA GAGAGCAGGG
18201 GGCAGCCCCT GGAGGGGTAC TCACCCCCAG AGCTTCTGTG GTCGGCTGAG
18251 GACCCCCAGC AGGGGTGAC TGAGGGGATC AGAGGCAAGC AGCTGAGGGG
18301 AGAGGCCAGG TTCTTGATGC TGATAGGGTC GGGGTGCCCT GCGACACAGA
18351 ACTCAAGGAG GGAGGCATGG GGAGGGGCCG CCGTGCAGCT GGGGTGGGTG
18401 CACCGCAGAG CCTCTGGGAG TGGTCAGAAC CCCCAGACCT TGCCACTTCT
18451 ACAGCAGCTC ATCTGATTTT AAGGGGCTTG CTGCCCTTGC AGAAGTGGAG
18501 GGGTGTGCCC AAAGGAGCCT GCCTGGAAGG TCACCCCATC AGGTGGGCAT
18551 GACCCAGGCC CAGGACTGCA GCCTGCCCTC AAGGTCTGTG CAGTATCTGG

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FIGURE 3F

Docket No.: CL001204DIV
Serial No.: To Be Assigned
Inventors: Wei SHAO et al.
Title: ISOLATED HUMAN KINASE...

18601 GGTGAGTCCT CTGAGGACAG GGCCAGGGT GGGTGTGGAG TGGCCAGCTC
18651 GGGGCTCGGT GTCCAGGCTC ACCTTCAGGG GCCACAGCAC AGACCTGCCC
18701 TTCCAGAGTC TTCCCTGAGC TTGGCTGGGG AGGAGGGGGC TGCAGGAAGG
18751 AGCTGTGAGC AGGGCAGGAT GGAGATTCGT GTGGCCCTCC TGGGAGGGGC
18801 TGGGCAGGGC TGGGAAAGGG GTGGGTGAGA TGTTCCGGAA CTCAGGAAA
18851 GGAAGAGTCT GGGTACTGCC CTGGGGGCAC CTGGGCCAG GTGGCAGGTG
18901 GCCAGCTTTC TGCCTCCTTT CCACCTCCTT TCTCCAGAAG GCACCCACCA
18951 GCTGTGTAAA TAGGGCAGGT GCCACGGCC CGCCTCAGGC CCCGTCTCCT
19001 CCCACCCAC GCTCTCTAAT CGCGGATTAT ACACAATCCA GCCTGATCCC
19051 TGGGCAGCTG CCCTCCCTCC CGCAGCCACC TCTGGCTCTG AGAGATGGGC
19101 TTGGGGCCAG CCTGGGGTCC CAGGAGTCCA GGCCAGGATG AGAACCTGCT
19151 CTGACCCAC CTGACGCAT TAGGCCTGCC TGGACCTGTT GCCTCACCCC
19201 AAGAGAGCCA CAGGCAATGC AAAGGCTCCT GTTCATGTCA GGGCACCTGG
19251 AAGGCTGAC TTGCAGAGGC TCTTGGCTCG TGCAGACCCC TCCAAGCCCA
19301 GGCCCTGCCC ACCACCTCCC CTTTGTCTCT GGAAC TGCCA GGACAGCTTG
19351 TCCTCAGCCA GCAGGTTTCC CGACCCGGGC ACCTCTTCAT GTTGGGCCCC
19401 CCTCCTTTCC CTCCATCAGG GATCATGCCC TTCTTCAGGG GCCTGGATAT
19451 CAAGGACACA AAAGCTCCCA TGTGCTATGT GGGGAGGCAG AGTGGGGGCT
19501 GGGTTGAGCT GGGGTCTGGG CAGCGCCATT CCGCAGGGCA GGGGCAGCCT
19551 AGGCTTCCCA TCTGTGGAAT GGGTGGGTGG GTCTCACAAC GGACCTGCTT
19601 CCCGTACTTC AGCACGGTTA CCACTCTTGA TTGGAACCTT GACCATGCAT
19651 CTCCTCTTCT GTTTACTTCA CGCTTTCTCT TCCCATCAAC TCCCATTTTA
19701 ATTACAATTT GTTTAAAAGC ACTGCATATT ACTTCATTAA ACAGAAGATT
19751 AGTTTCACTT ACCATTAGTG TAAGGTGACT ATAGAACCAA AGCAGACTGG
19801 AAACCAAATG ACATAATGTC ATTCTCTTCT CCATTCCAGC TGCCTGCTGC
19851 TGTGCGCCTG AGAACCCCTG TGGAGTGGGA GGGGCAGCTG TCTCTGTACA
19901 TTAGAAAGGG AGGTAACTA AGTGACAGGA GGTGTTTGGG ACATGTGGAC
19951 ACCAGACTTC TCTCTTGATG CAAGGAGGGC AGAGCCAGGC AGCCTAGTGG
20001 GGGCTGGCTT GGGGGCTGCT GGAAGGACTG GCTACAGGTG GAAGAGAGGT
20051 CAGACCTGAA GCTTGGGGCC ACCTCCAGGA AAGGACAGGT GAAAGTGGAG
20101 GCATGAGGCA GGGGAGAGGC AGGTGCCAGG CAGAGGGTGG AGAGGAGGCA
20151 GGAACATAGC AGCTGGGGCG GGGGCGGGCC CTCAAGTGTC ATATGCTACT
20201 TTCCTGGGSC CCAGGGGCAA GGACAGGAAC AGCCACAGCA TGTGTTGGGA
20251 CAGAGCCCTG TGCCTTCCTA GAGCTGGGCA GGTGGAATGG GGCAGGAATG
20301 GGACTCGTGG TGGCTGCAGC AGGAAC TGGA GGGGAAGGGG CTTCTGGATC
20351 CTGCAGCCTA CCTTCC TAGA GGCCAGCTTT CCGGGGTCCA CCAGGTGGGT
20401 GGGAAC TGGG CTTGTGTAGC AAGACTGCCC TGAGGACCAT CCATGACATG
20451 GTCTAGATGA AAGTTAGGAA AGAAAGGGAG ACAAGCTGGC AGCAGAAGTA
20501 CAGCTGGGTC AAGGCAAGG GCCTTTCCAG ATAGGGACAA CCAAGAGTGG
20551 CACATGTGCC CACGCCACAC AACACAGGCA CACACGACAC GTGCACGCTC
20601 ATAGGCACTG CACACACACA TGCACAGGTG CTCATGCATA TGTATGAGCT
20651 TCATCTACAC ACATTACAT GCCGTCTGTC TTATGTGCAT GTTTCCATAC
20701 ATGCACATGA ATGCACAATC ACGTGTACAC ACATGCATGT GATCACATAC
20751 ATGAACATGT GTGCACCCCA CTCCTCAGGT GCCATCGGGC TCCTCCTGCT
20801 GTCATGTGC AGCAGGGGAC ATGAGGCCCC AGAGCAGACA GGTGCAGCAC
20851 AGGCGTTCCC AGGCAGTGCC CCACACACAT GCATGAGCAC ACCCGGGCAT
20901 GTGGCGCCTC CTTTGTGGAC TCAGTCCACC TGCCAGGTGG GCTCCCTGGT
20951 GGTGTGAGCT CCCAGAGGTC TGGCGAGAGA GATAAAGGCA ACCCCACCAC
21001 CAGGCGTGCT GAGAATTCCC TCTTCTGGCT GGGCACAGTG GCTCATACCT
21051 GTAATCCCAG CACTTTGGGA GGCCGAGGTG GGCAGATCAC TTGAGGTTAG
21101 GAGTTTGAGA CCAGCTTGGC CAATATGGTG AAACCTCATC TCCACTAAAA
21151 ATATACACAC ACAAAAATTA GCTGGGTGTG GTGGTGTGCA CCTGTAGTTC
21201 CAGCTACTCG GGAGGCTGAG GCAGGAGAAT CGCTTGAACC TGGGAGTCAG
21251 AGACTGCAGT GAGCCGAGAT CATGTCACTG CACTCCAGCC CGGGTGACAG
21301 AGTGAGACTC CATCTAAAAA AAAAAAGAA TTCCCTCCTC TGGGAATTTA
21351 GACCACAGAC AGGTTGCATG TATGTGGCCG TTGGAGGCAG CACTCACAGC
21401 AAAGAGTGGA AACGTCACCA CAGGGCCTGC CTTCTGGTGA AAATGGTGTC
21451 CTGACGGGCG GGCAGCTGTT TGAGGGCAGG TGTCCCAGGT GCGGCTGCA
21501 GCAGCCTGAG GGTACAGAG CGCAGTGCTG GGAGTGAGA GACTTCCCCC
21551 ACAGGGAGAG TTCCCAGGAA CCTGCTTCCG GTGCACCTCT GGGGGTTTGA
21601 GTTTTTTCCA CGGACGAATT ACTTTGAGAA ACCACTGTTA CTCGTGTGTA
21651 TAGGTGAGCG TGCCTGTGCA TGTGTGTTCT GTGTGTGAGT GTGCATGTAT

FIGURE 3G

Docket No.: CL001204DIV
Serial No.: To Be Assigned
Inventors: Wei SHAO et al.
Title: ISOLATED HUMAN KINASE...

21701	GTGCGTGCCT	GCGTATATAT	CCTCGCAGAT	ACGGCTAGGG	ACCTCACTCA
21751	GGACAGTAGT	TCTGCCTGAG	GAGAGTGAAT	GCGGCAAGAT	TGAGGAGAAC
21801	ACAGGCATCT	TCAAACACAA	TGTGCGGTGC	TTTATTCTCT	TAAAAATGCG
21851	TCTAAAGCAA	ATAGGAAAAT	GTAAAGATTT	GAATCCGTAG	AGTGTGGGTT
21901	CTATTATTCT	CTCCACATCT	TCCATACGTT	TAAAATCTTT	TGCAATGAAA
21951	ATAAGCTGTA	GTTAAAGCAG	CAATGCAGGC	TGCCAGTGAG	CGCCCCGGAG
22001	GCCAGTGAGG	ACCAGCATGG	CTGGGTGGCC	TGTTGGAATC	CAAGGGGGGC
22051	GGGCAGGAGC	TGCAGGCAGG	CGCCCCGGAG	TAGCCCCGGC	ATGGGGGTGC
22101	GGGGCAACAG	GGATGTCTGC	AGGGGTAGCA	TGTGGGCCCC	GGACTGCAAG
22151	CAGGTGGAGC	CAGCCGGATG	CGGCTCCTAT	GAGAAAAGCG	GGGAACAAGA
22201	GACCACGCTC	GTTCTTCCCTG	CTGCGGGGAC	AGCCCTGGTC	ATCGCTCCGG
22251	GGAACCGCTC	AGCCTGCGCC	GCACGTGGCC	GCCCCCTGCT	GCTTCTCCTT
22301	CCCCGGCCTC	CGGGTGGCCT	TGCTGACGGC	TCCTTCTCTG	AGGCAGGTCT
22351	CTGCCTTCTC	GCCTGGTGCC	TGCACTCAGT	AGCCCCCTCA	CCAGAGCTGC
22401	TGGGTGAAGG	AAGCACTAAG	AACCCAAGGC	TCGGGAGGAG	AGTGGGGCCG
22451	GGAAGCTGCA	GGGAAGCGCA	GGGCCAGGCC	TGGTGGGCCC	AGGGGCTGGC
22501	TCACGGGAGG	GCAGGAGGGA	GA CTGTGGCG	GACAGCACGT	GGGGCCAGGA
22551	GGTGACCTCC	AAGTGGATTG	TGGGTGGGTT	TTTTGTCTCT	TTTCTGCATT
22601	TTCCAGGCAT	TTTGTAATGT	GGATAGAAAT	TTTCTGTTCT	TCAAAAATAC
22651	TTTAGTTAAG	AAAAATAAGA	TGGAAGCTGT	TGCACTTGAA	AATGAGGAAG
22701	CCACTGGTGA	TGCAGGGGGG	GCGGCGGAGA	GGACCTCTTC	TGCAAATAGC
22751	GGCAGGAACA	CGGCATGGAT	GCAGCTCGCG	CTCCCCCAGG	CCCTCCCCTG
22801	GGCTGTGTGG	AGGGGTCCCG	GGGGAATGGG	CCAGCGCCCA	GTGGTCACCT
22851	GGCCATGTCT	CCCCACAGCC	CGGAAGCAGG	AGATCATTA	GACCACGAGG
22901	CAGCTCATCG	AGGCCGTCAA	CAACGGTGAC	TTTGAGGCCT	ACGCGTGAGT
22951	CCCTGGGGCT	GGGGGGGGGC	TGTGCAGGAC	AAGGATGTGG	GACCCCTGGG
23001	GGGGCCTGCT	CAGAGTCAGG	GGTCCACGGG	GCCCCCTCCT	ACTTGGATTT
23051	GGCCCCCAGG	AAAATCTGTG	ACCCAGGGCT	GACCTCGTTT	GAGCCTGAAG
23101	CACTGGGCAA	CCTGGTTGAA	GGGATGGACT	TCCACAGATT	CTACTTCGAG
23151	AACCGTGAGT	GAGGAAGCCC	GGGTGGGCAT	GAGGGGGCGG	TGCCCCCAGG
23201	AGAGCCTCTC	GGCCCCCTCC	AGGGACAGCA	TGGTGGCTGC	CTATGGAAGC
23251	CCTGTCCCCT	CTGTGCCCAG	GGTTGGCCAG	CCACCTCTCC	CCCGCCAGAG
23301	GCCATACCCA	GCCCCCAGAA	TCCCACCTCT	GGAGGGGCCC	ATGCTGCTCC
23351	CAGGAGAGCC	GAGCCTCCCC	AATAAGGGGA	GTTGAGAGAG	GGAAAGGATT
23401	AGGCTGGTGG	GGTGAAGAC	GGGCACCAGG	GCAGTCATGG	TAACCCGAGA
23451	CCCCCGCCCC	GCCTGCTGTC	CACAGTGCTG	GCCAAGAACA	GCAAGCCGAT
23501	CCACACGACC	ATCCTGAACC	CACACGTGCA	CGTCATTGGA	GAGGATGCCG
23551	CCTGCATCGC	TTACATCCGG	CTCACGCAGT	ACATTGACGG	GCAGGGCCGG
23601	CCCCGCACCA	GCCAGTCTGA	GGAGACCCGC	GTGTGGCACC	GCCGCGACGG
23651	CAAGTGGCAG	AACGTGCACT	TCCACTGCTC	GGGCGCGCCT	GTGGCCCCGC
23701	TGCAGTGAAG	GTGAGTGTTT	TGTGCTAAGT	GACAGCTGGG	GCAGAGGGGT
23751	GGCGGTGGTG	TGAGTGGCTG	CAGCCTGGGG	AGGCGATGGG	GAGCGGTGGG
23801	GCCTGTGGCA	GAGCCCATGC	CTGGGAAGTC	CCTGAGCTTT	CCTGGTGAGG
23851	CCACAGGAAT	GATGTCAAAT	TAGGGACCAC	GGCAGGCTGG	GTGTGGCAGG
23901	CCTCCCCAGA	GGACTGGGGA	GCTGGTGAGG	GCCTGAGCAG	TCCACACTGG
23951	CCAGAGCTGG	GTGGGTGCA	GGTGGATGGG	CCCCGGGCAG	CACAGTCTTG
24001	GGCACCATGC	CCTGTTTGTG	AGGACTGTTA	GAGCCCCAGA	TGGGCGTTCC
24051	CCAGGTGGTG	GGTGCAGCGG	GCCCAGAGCC	CAGTTTTACA	GGGATAGTAG
24101	TAATTGGGTT	GGGCACCTTG	AACCTCTCTC	CCGAGTGGGC	CCTTTTCTGG
24151	ACTTTAACCC	TCTCTGCAGT	GCCGCATGGC	AGACAGCAGA	GCCTGGGGGT
24201	GGATGGGAGA	GGGGGCTGCT	GAGGAGCTGA	CCCACCGCC	CCATTTTACA
24251	GCTGCGCCCT	GGTTTTCGCG	GACAGAGTTG	GTGTTTGGAG	CCCGACTGCC
24301	CTCGGGCACA	CGGCCTGCCT	GTCGCATGTT	TGTGCTTGCC	TCGTTCCCTC
24351	CCCTGGTGCC	TGTGCTGCA	GAAAAACAAG	ACCAGATGTG	ATTTGTAAAA
24401	AAAAAAAAAA	AAAAAAAAAA	AAAAAACAA	ATGACGACGA	CAACCACAAA
24451	AAAAATTGAC	ATCAGATGAA	ATGAAAAAAA	AAAAAACAA	AAAAAACTAA
24501	AGGAAGGAAA	AAGCTGTAAA	AATCACTGGC	ATTCGTGGGG	CCACTCCCCA
24551	CCCAAGCTCC	AGCTGTGTCC	GTCTGTGCTC	CTGGCCTCTG	GGGGACCAGC
24601	TGGGACATGA	ACTTGTCTGC	CAGGCCCCCG	TCGCGTGCTG	AACGGTGTTA
24651	GTTTGTAGGT	AACGCACACA	CCCCACACCT	AAGGTGTCTG	CATCCTCCTG
24701	CCAACGCATG	GGCTCCACGT	GGTGTGCTCG	CTGGCTGTG	TGACTGTCAG
24751	CTGTCTCTTG	GGAGGGGGCTG	TGGGGGCCCC	CTGGGCTGCC	TCCTTTCCCG

FIGURE 3H

Docket No.: CL001204DIV
Serial No.: To Be Assigned
Inventors: Wei SHAO et al.
Title: ISOLATED HUMAN KINASE...

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24801 CTAGTTGTGC CTGAGAGTTG CTGTTGTTCC TGCTTTCCCT TCCCTTCCTT
24851 TCATCCCCCTG AAGGGCTAGG TGTGGGTTTT CCGTGCCCGG TATCCCCACA
24901 CACCCAGCAC GGACAACCTT TCGGCAGAGC CCAGGCCGGC CCCTCACCCC
24951 CTGGAGTATT GAAACTGGAG TCCCGTCCCC AAGGCCTTCA GAGATGCCCC
25001 TACACACCCA GGGCTCCAGC TCTGGTCCTT CTGGGGGAGT AAAGTGCAAA
25051 GAGGGGCACA GCTTAGTTTT GGGCCTCTCG CCGAGCAAGA GACAGCACTG
25101 CTGGCTACAG CTCCAACACA GCCAGCTGTG GCAAGAGGAC TCTGCCTGGG
25151 CTGGCCCCCTC TCCTGTGTGA GGTGTCTGTC CTTTCTCTGC TGGCCAGCAG
25201 CAGATGCACT GGCAGCTCCC AACCCTGTTT CCGCCCCTCG GCCCTCCCCC
25251 AGCCTGTTCG GCTTCTCTGC AGCCCGCAAG GGGGAGCAGA CTTTGTACAA
25301 AGGACTGCGG GCCTCGCTCA AGTCCCTGAG CCCCAGCTG AAGCTGGGAG
25351 GGGAGGCCCA GCTTGTGTG TGGGCATATT CGTCTGCTGA TGGGGTTTGG
25401 GGAAGCCTGG GGCTTGGGGT TTGGTCGGGT GGTGCAGCTA GTGGCAGAGC
25451 GGGATCAGAG GTGGTGGCTG CCCAGCTTCT GGGCTGAGAC AAGGGTCTGT
25501 GCAGGGGTTT ACTGAAGTGG GAGTGCCTTT GGAATCTGGG CCGGGAGCAG
25551 AAGGGAGCAA AAGCTACAGT GGGAGCCAGC CTAGGGCACA TGGGAGGCGT
25601 GAGGGCAGTG CTGCCCCTGC AGTGTCAAGT GTGCCAGTGC CTTGGCGGGC
25651 TGCAGTCCGT GTGAGGGCAC CTTCTAGGTG GGCCAGGGAT GCAGCTATGG
25701 AGATAAGGCG GTGCTGGGGC AGAAACAGGT GGGCACAGGG CCCAGGACAC
25751 CAGCGGATGG AGGGCAGGGT CTAGCCCTGT GCTCCTGAGC GTCGGCTGCC
25801 TGGGTTTCAG GCGGTGGGTC CCCGGCCCCC TGTGATGGTG TGTACCATGG
25851 GGGAGCTCCG GGACAGGGCA AGCCCGAGCA TGGTGGGGCT GCAGGGTGGG
25901 TCTGAAGCCA GGTGGGGTGG GGGTGGTCAC AAGCCCTGAC TGCAGAGGGT
25951 CAGGGGCTCC TGCCCCAGTG CCTGCCCACT TTCAATTCA ATTGTTTTCA
26001 ACAAGGATTT TCTTTATCTT CCCCTACAAA TCAAGCCAAG GGAGGGGCAC
26051 AGAATGGGGA ACAGGACACA GGATCCTAAA CTCCAAGGGG ACTGTCCACC
26101 GATGAACACT CAGAGTGGAC ACCATCTTCC GTCCACGCTG TGCCCAGGAC
26151 AGCTGTCCCC ATCCATGAAC ACAGGGTAAA CATCTGCCGG GCTCCGCACC
26201 AGTGGCTCCC TGGGCCATGG GACAGCGGCA GGGCTCACC ACGACAGCAC
26251 GTGGCCCAGC AGCCGGCCAC CCTGGCGTCC TGGGGCCTCC TCCCCTCCTC
26301 TCCCCTTCAC CTTGTACCTT CCACGGAGCT GCCTGTCTGG GATAATTGTT
26351 GGATTTTTTT TCTGGGGGAT AATTCTTTTG CATGACCCCT AAAGAGCAAG
26401 CCACACCGGT CTGCTAGCTA GGTGTCCGCG GTGTGGTGGT GGCGGCCGCT
26451 GGCCAGCGCT GCAAGGGGTC GGCTGCCAC GGTGCTGGCT GGCTCCCCCT
26501 CCTCTCTCTT TTTGCTGAGT TTCATTGTCT TTTCTTTCTG AGCCTTGTA
26551 GTGTACAAAA ATTATTCTTA TTTTGTTCCT TCTCGGAAA CTGCAAAATA
26601 AAGAAAAACA GGACAACTG CTTCAAGTGC AGCTGGGTGC TTTAGCTGGA
26651 ATCCTGCCGA CCTCTGCGC CAAAATACAG ACTCAAGCCC GGTCCCTGGC
26701 CAAGACCCTA CTTGGGCCCC TCCTCCAATG AAAGGTAGTG CTATGGGAGC
26751 CCTGAGCTGG CCCTGACAGT CCTGAGCCCC TCTAGGGTGA ACGGCTCACC
26801 CCAGGTAGGG CACTAGTCAT AGATCATAGC TCTACCAGCT GTCTCCACCT
26851 CTTCTCTTGG TCCTCTGAAG TCTTCTGGGC CCAGCGCTGT CCACCCTGAA
26901 TGCTGGAAC TAACTGGAT CCCAGCCCC AACACCCCTG ACCTCTCCAT
26951 TCACCCCCCG TGGCCGCTAA GGATGTGGCC AGGGCAGCCT CTGGGCAGGA
27001 AGGAGCCCCA GGACCAAGAC CTCTGGCTGT CTTGCTGTTT CCTTCCGCC
27051 CTGCTACATG TATTGGCTAT TCTGGATGCT GAGGACACAC AGTGACCACA
27101 GAGCCGGGCT CCACCCAGT GGATTATGCA GACAGATGGC ACGCAGGCCT
27151 GTGTGGACAT CAGCCTCGGG CACCAGACAT AGGCAAGGCG CAAGGTGATA
27201 CAGTAGGCAG CCACCATGGG GGCCAGGAG CTCCAGCAGA GGCCACACAA
27251 CCAGCCCAGA ATCCAGGACA GAGAGCTGGA ATGGAGACAG GGAAGCCAGA
27301 TACCAGGCCA GACTGGCCAG GTGCTACAGG CCTGTGGGCC AGGCCAGGCT
27351 TGGGGACTTC GTCTGGGTG TGAAGGAGAC AGGCACCCCT GAGGCCTTCC
27401 CTCTGCATCT CCAGCCCAAG CTAAGCGCAA ACTCTTAGGT TGGAGTAAGG
27451 AGTAACCCCC TGCCAAGTTT CTCCTGTCTT CAGGCTCCAC CCACCACCTA
27501 TGCTGCCTGG CCCCATGGGG CACACGCTCA GGCCAGCCT GGGAAAGCAA
27551 CTGCACCTGC CTGTGCTATG CTGGCCCTTC TCAGCCTCAA TGCCCTCCTC
27601 CCTCCCCGAC GCACCTCGT GGCCCCGCT GGGCCCCCTG ATGCACCTC
27651 ATGTCTCCAT GGCAACCTGC TCAGAGTGTG GCCCTGCCCT TGGCTCCCTT
27701 CCACACCTGT GTCCCAGGCA GTGCCACGGC ACTTTCCTAA ACAGAAGGAT
27751 GGGCTTCAAA ACAGTCCCAG ACATAAACA CACCTGCATT TTGGGTCCAA
27801 GTAACCTCTG ACAAGACGAG TGCCCCTACA CACCCTCAGT CCTATCCACT
27851 ATGGGCAAGG AGCCTGAAG ATCCCCCAGA ACTGGCTAAA GCCCTCAGTC
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FIGURE 3I

Docket No.: CL001204DIV
 Serial No.: To Be Assigned
 Inventors: Wei SHAO et al.
 Title: ISOLATED HUMAN KINASE...

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27901 TCCTCCTCCA CCCTGAGCAC CTTACGCGG CAGAGTGGCC CTGGATGTCA
27951 GCTTCTTGCT CCCCATGGTC TGCACCTGGA CAGGTGCTCT CAGGTGTGTG
28001 GGTGGGCAGG TGGCAGGTCC CAAGAGCCAG GTGCAAAGAA TCTAGGCCAG
28051 TGCCCACGAG TGCTGCACTG TCTGTCCCCA GCATGGTATC TAGGGCTCCA
28101 CTTGCCCTATC AGCTGTAATC GGAGGAGGCT TTCCAGGCCA GGCTCCCCC
28151 AGGAAGGCTG CAGGCACTGC GGATCGTGC CCCTCACATG CATTATTCTT
28201 GAGGCCCTTC TGCAGATGCC ATCAGGGCAG CAACTCTGAT GAGGTATTAG
28251 GGCACAGCAC ACAGGGCTAA GCCACCCTGT ACTGGGCCAA GCGCTACAGG
28301 CAAAAAGGAC ACCACCGACG GGCATTTCAT TCATCGCTT TATTTTATA
28351 TATTTTGTAG AGGGAGCCTC ACTCTGTCGC CCAGGCTGGA GTGCAGTGGC
28401 GCGATCTTGG CTCACTGCAA CTTCTCCCTC CTGGGTTC (SEQ ID NO:3)
  
```

FEATURES:

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Exon:      232-340
Intron:    341-431
Exon:      432-515
Intron:    516-1110
Exon:      1111-1205
Intron:    1206-1424
Exon:      1425-1547
Intron:    1548-1981
Exon:      1982-2065
Intron:    2066-3015
Exon:      3016-3058
Intron:    3059-4102
Exon:      4103-4177
Intron:    4178-9088
Exon:      9089-9126
Intron:    9127-9303
Exon:      9304-9375
Intron:    9376-10898
Exon:      10899-10943
Intron:    10944-12713
Exon:      12714-12762
Intron:    12763-17130
Exon:      17131-17133
Intron:    17134-22868
Exon:      22869-22944
Intron:    22945-23137
Exon:      23138-23154
Intron:    23155-23475
Exon:      23476-23705
Stop:      23706
  
```

CHROMOSOME MAP POSITION:

Chromosome 7

ALLELIC VARIANTS (SNPs):

DNA				Protein		
Position	Major	Minor	Domain	Position	Major	Minor
487	T	C	Exon	55	H	H
496	T	C	Exon	58	L	L
1662	T	C	Intron			
1785	T	A	Intron			
1889	A	T	Intron			
2416	C	T	Intron			
4698	A	G	Intron			
5424	C	T	Intron			
8722	C	A	Intron			

FIGURE 3J

Docket No.: CL001204DIV
 Serial No.: To Be Assigned
 Inventors: Wei SHAO et al.
 Title: ISOLATED HUMAN KINASE...

9982	G	A	Intron			
10951	C	T	Intron			
12603	T	C	Intron			
14583	C	T	Intron			
17290	T	C	Intron			
18188	C	T	Intron			
19911	A	G	Intron			
21328	C	A G	Intron			
21391	T	C	Intron			
22588	C	T	Intron			
22965	-	G	Intron			
23498	G	A	Exon	312	R	R
23663	T	C	Exon	367	S	S
25427	A	G	Beyond ORF (3')			
27727	C	T	Beyond ORF (3')			
27834	T	C	Beyond ORF (3')			
28336	G	A	Beyond ORF (3')			

Context:

DNA
Position

487 CACCTCTGGGTTTAAACAACATGCACCCTTGTGCCGGTCACCTCCCTGCAGCCGGAGAAC
 CTGCTTCTGGCCAGCAAGTGCAAAGGGGCTGCAGTGAAGCTGGCAGACTTCGGCCTAGCT
 ATCGAGGTGCAGGGGGACCAAGCAGGCATGGTTTGGTGAGTGCCAGGGGCAGGGTGTGTG
 GCTGGCAGTTGGCAGGGCAGGAGGTGATGCTGACAGCCCCCTGTGGCCTCTTCCCCCTCTC
 TCTAGGTTTTCGCTGGCACACCAGGCTACCTGTCCCCCTGAGGTCCTTCGCAAAGAGGCGTA
 [T, C]
 GGCAAGCCTGTGGACATCTGGGCATGTGGTGAGGCCTGGCCTGAGTTGGTGCGGGGCAGG
 GCCTCGGGTGTTCAGGACTTCCCACCTACATCCTGGAGTGTGCAGTGGCCAGCACGTCT
 TGCTCTCATCTGGGTTTATCTGTGTGTCAGACCTGCCCTTGAGCTGCCCTGGCAGGGGTCTG
 CCCACACAGCCAAGAGCCCCCTTTCCACCCAGATTAGAATTGCTCACATGAACCTGGCGC
 ACCCCAGTGCTCGCCTGCGCTCAGCAGAGGTCTGGTCCAGAAGTGTGGTGGGTGGATGGG (SEQ ID

NO:5)

496 GTTTAAACAACATGCACCCTTGTGCCGGTCACCTCCCTGCAGCCGGAGAACCTGCTTCTG
 GCCAGCAAGTGCAAAGGGGCTGCAGTGAAGCTGGCAGACTTCGGCCTAGCTATCGAGGTG
 CAGGGGGACCAAGCAGGCATGGTTTGGTGAGTGCCAGGGGCAGGGTGTGTGGCTGGCAGT
 TGGCAGGGCAGGAGGTGATGCTGACAGCCCCCTGTGGCCTCTTCCCCCTCTCTCTAGGTTT
 CGCTGGCACACCAGGCTACCTGTCCCCCTGAGGTCCTTCGCAAAGAGGCGTATGGCAAGCC
 [T, C]
 GTGGACATCTGGGCATGTGGTGAGGCCTGGCCTGAGTTGGTGCGGGGCAGGGCCTCGGGT
 GTTTCAGGACTTCCCACCTACATCCTGGAGTGTGCAGTGGCCAGCACGTCTTGCTCTCAT
 CTGGGTTTATCTGTGTCAGACCTGCCCTTGAGCTGCCCTGGCAGGGGTCTGCCCACACAG
 CCAAGAGCCCCCTTTCCACCCAGATTAGAATTGCTCACATGAACCTGGCGCACCCCAAGTG
 CTCGCTGCGCTCAGCAGAGGTCTGGTCCAGAAGTGTGGTGGGTGGATGGGAGTGGAGAA (SEQ ID

NO:6)

1662 GAATTCTTGCCCCCTGCCTGAGAGGGAGCTTCAGGCCCGCGGGGCGCTGTTTCCTTCTG
 CAGTTCCCGTCCCCCTGAGTGGGACACCGTCACTCCTGAAGCCAAAACCTCATCAACCAG
 ATGCTGACCATCAACCCCTGCCAAGCGCATCACAGCCCATGAGGCCCTGAAGCACCCGTGG
 GTCTGCGTGAGTCGCCCTTGGTGCCCATGGTGGGGAGGGGGCTCCTGGTGGAGATGGCCT
 CAGACCACTCCCCTGCCAAGGACCCCAAGAGGTCCTGTTCTGACATCCAAGAGCTCCC
 [T, C]
 TGGGTCCCCCTGGGTGCTCCTTGTGGCCTCTGGCTTGGGACATACCAGCACGTTTGTGAGG
 CCTGGGGCTTGGAAGGCATTAGAGGGTAGAGGTGATCCCTTCTCCCAACTGCAGTCCGT
 TCTGTGAGGCGCAGAGTGGACGAGGCAAGGGAGAGACGAGTCTTGAAGTCCCAGGCGGT
 GGGGACAGACAACCCCTTGCCGCAATGGTGGCCGGTGGCTCTTGGCAAGTGGGGACCCAG
 GGTGCCACAAGCCTTGCCACCCTGGCCTCTCCCCTGTGCTCGGGCTCGGCTGCCATATG (SEQ ID

NO:7)

1785 CTGACCATCAACCCCTGCCAAGCGCATCACAGCCCATGAGGCCCTGAAGCACCCGTGGGTC

FIGURE 3K

TCGGTGAGTCGCCCTTGGTGCCCATGGTGGGGAGGGGGCTCCTGGTGAGATGGCCTCAG
ACCACTCCCCCTGGCAAGGACCCCAAGAGGGTCTTGTCTGACATCCAAGAGCTCCCTTG
GGTCCCCCTGGGTGCTCCTTGTGGCCTCTGGCTTGGGACATACCAGCACGTTTGTGAGGCC
TGGGGCTTGAAGGCATTAGAGGGTAGAGGTGATCCCTTCTCCCACTGCAGTCTGTG
[T, A]
GTGAGGGGCGAGTGGACGAGGCAAGGGAGAGACGAGTCTTGAAGTCCCAGGCGGGTGGG
GACAGACAACCCCTGCCGCAATGGTGGCCGGTGGCTCTTGGCAAGTGGGGACCCAGGGT
GCCACAAGCCTTGCCACCCTGGCCTCTCCCCCTGTGCTCGGGCTCGGCTGCCATATGACC
ACCCATTTCCCCACAGCAACGCTCCACGGTAGCATCCATGATGCACAGACAGGAGACTGT
GGAGTGTCTGAAAAAGTTCAATGCCAGGAGAAAGTCAAGGTGAGGCCCTGGCCCCTAGT (SEQ ID
NO:8)
1889 GTGGAGATGGCCTCAGACCACTCCCCTGGCAAGGACCCCAAGAGGGTCTTGTTCCTGACA
TCCAAGAGCTCCCTTGGGTCCCTTGGGTGCTCCTTGTGGCCTCTGGCTTGGGACATACCA
GCACGTTTGTGAGGCCTGGGGCTTGAAGGCATTAGAGGGTAGAGGTGATCCCTTCTCTCC
CAACTGCAGTCTGTCTGTGAGGGGCGAGTGGACGAGGCAAGGGAGAGACGAGTCTTGA
AGTCCCAGGCGGTGGGGACAGACAACCCCTTGCCGCAATGGTGGCCGGTGGCTCTTGGCA
[A, T]
GTGGGGACCCAGGGTGCCACAAGCCTTGCCACCCTGGCCTCTCCCCCTGTGCTCGGGCT
CGGCTGCCATATGACCACCCATTTCCCCACAGCAACGCTCCACGGTAGCATCCATGATGC
ACAGACAGGAGACTGTGGAGTGTCTGAAAAAGTTCAATGCCAGGAGAAAGCTCAAGGTGA
GGCCCTGGCCCCCTAGTCCCAGGACGGCCATGCTTCTGTGTCTCTTGGGCTGGAGCA
GGGGGGCCTTGGGGGGTCTGGGCAGACCTAGGGGTTACTGCTGCCCCAAGACTGACTGT (SEQ ID
NO:9)
2416 TCTGGGCTGGAGCAGGGGGCCTTGGGGGGTCTGGGCAGACCTAGGGGTTACTGCTGCCC
CCAAGACTGACTGTTAGCAAGTCCCAGACTGGATGCATCAGGTGAACTCAGGCCAGCTTG
GGAATGAGTCCAGAGGGGCCCTGGGCCAGGTGTGGCTCCTCCTAGTTGTCTGTGCCACCT
CCTAGCAGCCCTTGGAGGAGCTGTCTGAAGCGCTCGCTGTGGGCTCCTCACCCGGGCTC
TGCAGGCAGCACTCACCCCTCTGGCAGTCACACTGTTTAGTACAAGCAAGTCCGAAGCTTC
[C, T]
GGCTCAGACAGGTTTGGTAAGGAGAGCAGAGCCACACACTGGTCTTGGGTGGGCTGGG
GGAGTTCTGGGAGGAGGTGGGTCCCAGTAGGGTATCCAACCTGCCCTGCTTTGGTCAGGG
CTGGCTCCGGTGACCGCACACTGGCAGTCCCTCTACTTGTGGGTTCGGGATGGGGACTT
GTTGCCCTGACTGCCCTCTGCTGGTCTCTGAGCAGTTCTCCCCGGAAGCCCCAGGACTGTT
GCCCTGTCTGAGCCTGTGAGAAAAGAAGGGGCTGTCAGGGAGCTGGACCCAGAGGAGC (SEQ ID
NO:10)
4698 GCTAGGTGGCCCCCTGGGCTACACCAAGCCCTTCTGGTCTTGGCCCCGAGGTCTGGGGGT
CCGGAGACCCCATTAAGAATGGCCTGGGCCCCACAGGGAGCCACTGGGCCTGCTGCTGG
GGGTCTGAATCCTGAAAGGAGAGCCTTGAAGGAGCAGAGCCAGAGAGGCAGAGGCCCTTG
GGGAGACACACACCCCTGCCCTCTGGGGCCGATGGAGACGGTGGTCTGTGCTGCTGAG
TCTTACACATGCATGTCTGCCCTGAGCATCCCCCAGGACAAGCCGCTCTGGAGTGGGTG
[A, G]
GGGTTTTATGCACCCCTGAGGAGACTTTCAAGGCTTCTCTTGGGTGTTTCTGCAAAGTC
CTCTCCCCCTGGCCTCAAACCCCTGTGAGGGAAAAGGCCGGCACTGGCCACCTGCTCTCT
GGGCTGTGCGGGGCCAGAGCCAGAGGCCCAAGTTGGCTTCTGCCCACCTGCTGGCTGTG
GACCAT (SEQ ID NO:11)
5424 CCTCCTCATGACCCACAGGGTGAAGCAGCTGGCCTTCCCAGCCAGAGAACCCTCCTTCTG
GGGAGGCCCCAGGGCGTCTCGGGGAGGGCAGTCTATTCTCCTCCCATGAGCCAGTGGAC
GTGTCTAGCAGGCAGCACCCCGGGAGAGCCCTCCCACGTCTTCTCCATTTGACAGGCCTT
TCCAGAGCGCAGGCGGGAGGGGGCTGTGATTAGAAAAGAGTGAAGGTAGTGGCTTCTGGG
GAGGCACTGCTGCCCAGGGGACAGTCTGAGAGACAGCTGCCTCTACGCTGCCCTGTGCC
[C, T]
GGGGCTCCCGCTGCAATGCCCGCCTGTCTGCAAGTGAACGTGGGGCGACGGTGCATGAGG
CCCTGCATGTGTGGCTCCACCCTGGGCGCCGAGAGCAGCTCTGTCTTGGAGGGTGGTCAG
TGATGTGGACAGAGCCAGCATGGCTGTCTGGGTGACCAGCTAAGGGGACAAGGCAGA
GGCAGGGCTGAGAGGACCCATCTGCTAGGTGAGCCAGCTCAGCCATATCACACGG
CAGTGAGCATGGAGCTCAGTTCTCTGCCAATGGCAGCTGAGTCTAGTACCATCCAGTCAG (SEQ ID
NO:12)

FIGURE 3L

8722 AAGGCCTGTGCTGGCCCCAGTCAGTGCACAGAAGCGGCCCAAGGCCAGGGCTGCTGGGC
AGCTCGGAATGAGGGCGAGCAGGGCTGCCCTTGGTGCTGAGCCAAGGAGCCAATGGGAC
AGACCTCTGAGCCTGGGTGCCAAGTATGAGGTCTGAGACAGGGTGAGCGCCTGGGCTGGG
ACAAGGCCCTCTGAGTGGGCGGCCAGCTGCAGCCCACCCACCCCTACCCCAGGAAGGCAG
GGCCCCGGGAGGGCATGACCTCTGGGGTGCTGGCTCAGCTGCCCCACCCCAACCTGACAC
[C, A]
GCTAGTCTCTGAGTTCCCATCAGGGAGGAAGCAGCATCCTGCCTTCTCTAGGAAGAGCTT
GCATGTGGCCCAGAAGCCAAGGGGGCTCCCCAGCACCCACGGGCATCTCTGGGTCTGGTC
AGAGGAGAAATCTGGATGCTTGCAGGAGCCCCAGGGTCATGGAGGAGGCTGGAGACAGGG
CTGTCTTGGGGTGATGGGATGGCCCCCACCCTGCTCAGAGCCAGCCTGGGTGCTGGAAC
CACACTTGCTCAGGACCTGGGGCTTGCTCCTGGGGAAAGAGTGGGGTCAGGCAAAGGGG (SEQ ID

NO:13)

9982 CCAGGAGTGTTTCAGGAAGTCAGTGAGGCAGAAGATACCCTCTCCCCACCAGGACCCACC
CTCAGTCTCTCCACCATCCTCAACAGGCCGACCCACAGACCACTCCGAAGGTCTGGCTTG
GTGGGGCTGGGCCAGGATCTGCAGGGGGAACAGCCCATAGTGGCACATTCACGGCCCAT
GGGGAGACGGGGCCACGGTGGTGCACTAGAGAGGTGTCTAAGCCAGTGGCAGCCAAGGAG
AGGGCTTGCCGTACCTCTGTGTTCCTCAGTGTGCTCTGTGGCTGCCTGAGAGGCAGG
[G, A]
CTTAGGGGCTCCCTGCCGGGGAGGGGAGGGGTCCCCACCATGCTCCGCTCCAACCTGCGCC
CCTCAGTGCCCCCTTGCCCTGGGGGCTCCTACAGGTGAACCTTATAGCAGTACTCCCAAGG
ATGTAAAGTTGTGGCTGGTGGGTGCCGGCCTTCTGTGTTGGGGCGCTGTGCTGTGTCCCTT
CAGCTGTCTTAAGAGCTTTGGGGCTTGCTGGCCGTTAGGTCCCCATATTTGCTTGAAGCA
GGCTTGGTGTCCCTGAGAACCCAGGCCAGGCTTCGGGAGCCAGCCCCAGACCGCCAC (SEQ ID

NO:14)

10951 ACAGCAGCACCTCCGCCAGCCTGGACAGAGCTCCTGTCCATTCCATCCCTGCCCGGTGAC
CCAGGCTCCTCCCCAGCTGCTCCACGCCGCTCCATCCCTGTCCCCCACTCTGCTCTGC
ACTTCTTTCTCGCAGGCTCTGGCCACCCACACCTCCTCTGTCTCCCTGTTCCTCTCCTTG
TGGTCTCCGCTCCTCTCTCTCTCCTTTCCTCTCTTTCCCTTCTCTGTGTCTTCTCTTC
TTCTGTAGGAGCCTCAAACACCGTCATCCATAACCCAGTGGACGGGATTAAGGTACTGC
[C, T]
CCACTTTCTCTCTCCCGCTTTCCCCAGGCAGGAGGTCCAGGCCAGGAGAGAGGTCTGGG
GCAGCATTTGTGCCAGAGTGGAGGGCAGATGTCCCATGGCCCTGGCCGCCCCCTCCCCGCA
GTACGGTAGGGCCCCAGTCCGCTTTCGTGGGCAACAACAGGACAGACTGGCTCAGGCCCC
AGGCGCGCCCCTGAGGTGCTTGGCACAGTTGCGCCCGGTCCCCATGTGGCCGACACTCT
CAGACCAGGGCTCTGCGTGTCACCTACGGCAGGAGTAGGGCTTCCTGAGGTCTGGAG (SEQ ID

NO:15)

12603 AGTCTCTCTGCCAGGCTCATCTTGCTGGGAGAAGTGAGCCCTCATGTGTTGGGGATGCA
GGGTGGCCACAGCACTAGGGTGGCAGGGCCGGCCTCGGACTCCGTGCCAGCCTGTGTCTGG
CTGCCGTGAGAATGCACCTTGGTGAGGGGCGCCCTCCAGGGACCAGCACAGAACTGGGT
GTCCTTCTCCGGTCACTGCCGATGAGGTCCACAGAGCTGGGGCCCTGCAGCCGCCAGAGG
GCATGTCCCTGAGCCCCCTGGCCTTTAAGCCCCGTGGAAGCAGCCGAGGCAGAGATCAGC
[T, C]
TCAGAGCCTGGGCTGGTCTTGACACAGGCCAGCCCTGTCCACCTGCCCTCAGCCACGTC
CCACCTATCCTTGCCCGCATCCTGACCCGCTGCCTCCCGTGTTCCTCAGGAGTCTTCTG
ACAGTGCCAATACCACCATAGAGGATGAAGACGCTAAAGGTACCTGCACTTGAGTCTCTTG
CCCCCAGCGGCTTGGCATTGCTGGGTGCTCTTTGAGGTGGGTGGGACTTGGGCAGG
GTCAACTCTCTGCGACGCCTAGTTTATGATGTGTTGAGGGGCTCAGGGACCTGTAGC (SEQ ID

NO:16)

14583 ACATCCTGAGCTCAGTGAGGAGGGGCTCGGGAGCCCCAGAAGCCGAGGGGCCCTTGCCCT
GCCCCATCTCCGGCTCCCTTTAGCCCCCTGCCAGCCCCATGTAAGTAGCCTGGGTCTCTGCT
GCTGTGGGGGTATGTTGGAGGGCTGGCAACCCCCTAGAGGGGCCACTCCAGAGCCGAGG
GCAGGCTGAGCGTGAGCCCTGGCTCCAGCCTCATCACCCACAATCCCTCACTGGGGCTT
TCCAGGGTGGCCCCAGCCCATCGAGCCCCACCTCTTTGTGAGGAGGGCCCTGGACCACTT
[C, T]
CCTGCTCAAGGCCACTGGGCAGGATGGGAGGCCCTGGAGGCTCGGGCCTCAATTCCAGTC
TTCAGGGTTCGGTGACGGCCTCACTCCACCTCAGCTTGGGGCGGGGGGCTCCCTGCTAT
TGAGGCAGGCTCTGATTTCAGGGCTGATCCAGGGCCCAAGGGGTCTAGAACACGGGACC
CCTCCCACTGGCTCCTCCGCTTGCCGCGCCCTCGTGTGTCTGTCTGCCTCATGTTAC

FIGURE 3M

GTCTCATCTGTTCCACCCAGCCCCAGGGATCTCTGACATCCTGAACTCTGTGAGAAGG (SEQ ID
NO:17)

17290 CTGTCCCCCTGTGCCCCATCCCCACATCTGCCTCTGTGCCCCCTCAATCTCTGGCTTGGC
TGTCTGCCCATGGTTTCTCTCCTGCGTGCCCCCGTGCTGCCTTGTGTTACGTCTCGT
CTGTTCGCCCCAGCCCCAGGATCTCTGACATCCTGAACTCTGTGAGGAGGGGCTCAGG
GACCCAGAAAGCCGAGGGCCCCCTCGCCAGTGGGGCCCCGCCCTGCCATCTCCGACTAT
CCCTGGCCCCCTGCCACCCCATGTAAGTAGCACCTTGAGTGGCCGTGGCAGCGGCTGCC
[T,C]
GGAGGGGCTCGGGGCGTGCGAGCCTGGCAGTGGTGTCTTGGGAAGGGCCATTCTTGCGGA
GGAGGGCGGGGCACAGGATCCCTCTGTGCGGTCCCAGGGAATTGCTTTGAAGCACATGAA
GGTGCCACTGGGTCTCAGAAAATGGAGGTTATGGTTATGAAGTGTGTATGACATATGTGT
ATAGGAAGAGCGTCCGAAAGAGCAGGTTTGTTCGCCGACCCAGCATTCGCAACCCTGAGG
TCCACAGCTTTCTCCTGATGGGAGGGGAATGGGTGGCAAAGGGTCTGCCGCTGTGGCAA (SEQ ID
NO:18)

18188 ATCCCAGGGCTGCTGCCACCCACCTGTGGGGAGACACCAGACTGGGGGTGGTGTGGAG
ATACTCTTAGAGAAGAGGCTGCTGGGCCACGGGCTCGGCATGGCAGGGCAGTGGCTAGGT
AAGTACTTGAGGGACAGGTGGGGTCTGCTTGCCACCGTCCCCTCTGCAGGCTGGGCCTGG
GGGCTGCTGCAGGCGGCCAGGGCAGAAAGGGTGTGGGGAGAGTGAACCCACAGGAGCAGCG
GCTCGAGGAGGGGATGCAGGCTGCAGGCTCAAAGGGGCACTGGATCCACCCTGGGTGCC
[C,T]
GAGAGAGCAGGGGGCAGCCCCCTGGAGGGGTACTCACCCACAGAGCTTCTGTGGTTCGGCTG
AGGACCCACAGCAGGGGTTGACTGAGGGGATCAGAGGCAAGCAGCTGAGGGGAGAGGCCA
GGTTCCTGATGCTGATAGGGTTCGGGGTGCTGGGCGACCAGAACTCAAGGAGGGAGGCAT
GGGGAGGGGCGCCGTCAGCTGGGGTGGGTGCACCGCAGAGCCTCTGGGAGTGGTCAGA
ACCCCGACACCTGCCACTTCTACAGCAGCTCATCTGATTTTAAGGGGCTTGCTGCCCTT (SEQ ID
NO:19)

19911 AGCACGGTTACCACCTCTTGATTGAACTCTGACCATGCATCTCCTCTTCTGTTTACTTCA
CGCTTTCTCTTCCCACAACTCCCATTTTAATTACAATTTGTTTAAAAGCACTGCATATT
ACTTCATTAACAGAAAGATTAGTTTCACTTACCATTAGTGTAAGGTGACTATAGAACC
AGCAGACTGGAAACCAATGACATAATGTCATTCTCTCTCCATTCCAGCTGCCTGCTGC
TGTGCGCTGAGAACCCTGTGGAGTGGGAGGGGAGCTGTCTCTGTACATTAGAAAGGG
[A,G]
GGTTAACTAAGTGACAGAGGTTGTTTGGGACATGTGGACACCAGACTTCTCTCTTGATGC
AAGGAGGGCAGAGCCAGGCAGCCTAGTGGGGGCTGGCTTGGGGGCTGCTGGAAGGACTGG
CTACAGGTGGAAGAGAGGTCAGACCTGAAGCTTGGGGCCACCTCCAGGAAAGGACAGGTG
AAAGTGGAGGCATGAGGCAGGGGAGAGGCAGGTGCCAGGCAGAGGGTGGAGAGGAGGCAG
GAACATAGCAGCTGGGGCGGGGGCGGCCCTCAAGTGTATATGCTACTTTCTCTGGGGC (SEQ ID
NO:20)

21328 GCTGGGCACAGTGGCTCATACCTGTAATCCAGCACTTTGGGAGGCCGAGGTGGGCAGAT
CACTTGAGGTTAGGAGTTTGAGACCAGCCTGGCCAATATGGTGAAACCTCATCTCCACTA
AAAATATACACACAAAAATTAGCTGGGTGTGGTGGTGTGCACCTGTAGTTCCAGCTAC
TCGGGAGGCTGAGGCAGGAGAATCGCTTGAACCTGGGAGTCAGAGACTGCAGTGAGCCGA
GATCATGTCACTGCACCTCCAGCCCGGTGACAGAGTGAGACTCCATCTAAAAA
[C,A,G]
AATTCCTCCTCTGGGAATTTAGACCACAGACAGGTTGCATGTATGTGGCCGTTGGAGGC
AGCACTCACAGCAAAGAGTGGAACGTCACCACAGGGCCTGCCTTCTGGTGAAAATGGTG
TCCTGCAGGGCGGGCAGCTGTTTGGGGCAGGTGTCCCAGGTGCGGCTGCAGCAGCCTG
AGGGTCACAGAGCGCAGTGTGGGAGTGCAGAGACTTCCCCACAGGGAGAGTTCCAGG
AACCTGCTTCCGGTGCACCTTCTGGGGGTTTGGATTTTTCACGGACGAATTACTTTGAG (SEQ ID
NO:21)

21391 TTGAGGTTAGGAGTTTGGAGACCAGCCTGGCCAATATGGTGAAACCTCATCTCCACTAAAA
ATATACACACAAAAATTAGCTGGGTGTGGTGGTGTGCACCTGTAGTTCCAGCTACTCG
GGAGGCTGAGGCAGGAGAATCGCTTGAACCTGGGAGTCAGAGACTGCAGTGAGCCGAGAT
CATGTCACTGCACCTCCAGCCCGGTGACAGAGTGAGACTCCATCTAAAAA
TTCCCTCCTCTGGGAATTTAGACCACAGACAGGTTGCATGTATGTGGCCGTTGGAGGCAG
[T,C]
ACTCACAGCAAAGAGTGGAACGTCACCACAGGGCCTGCCTTCTGGTGAAAATGGTGTCC

FIGURE 3N

Docket No.: CL001204DIV
Serial No.: To Be Assigned
Inventors: Wei SHAO et al.
Title: ISOLATED HUMAN KINASE...

NO:22) TGCAGGGCGGGCAGCTGTTTGGAGGGCAGGTGTCCCAGGTGCGGCCCTGCAGCAGCCTGAGG
GTACAGAGCGCAGTGTCTGGGAGTGCAGAGACTTCCCCACAGGGAGAGTTCCCAGGAAC
CTGCTTCCGGTGCACCTCTGCGGGTGTGAGTTTTCACGGACGAATTACTTTGAGAAA
CCACTGTTACTCGTGTGTATAGGTGAGCGTGCGTGTGCATGTGTGTCTGTGTGTGAGTG (SEQ ID

22588 GCTGCTTCCTCCTCCCCGGCCTCCGGGTGGCCTTGCTGACGGCTCCTTCTCTGAGGCAGG
TCTCTGCCTTCTCGCCTGGTGCCTGCACTCAGTAGCCCCCTCACCAGAGCTGCTGGGTGA
AGGAAGCACTAAGAACCCAAGGCTCGGGAGGAGAGTGGGGCCGGGAAGCTGCAGGGAAGC
GCAGGGCCAGGCCGTGGTGGGCCCAGGGGCTGGCTCACGGGAGGGCAGGAGGGAGACTGTG
GCGGACAGCACGTGGGGCCAGGAGGTGACCTCCAAGTGGATTGTGGGTGGGTTTTTTGTCT
[C, T]
TCTTCTGCATTTTCCAGGCATTTTGTAAATGTGGATAGAATATTTCTGTTCTTCAAAAAT
ACTTTAGTTAAGAAAAATAAGATGGAAGCTGTTGCACTTGAAAATGAGGAAGCCACTGGT
GATGCAGGGGGGGCGCGGAGAGGACCTCTTCTGCAAATAGCGGCAGGAACACGGCATGG
ATGCAGCTCGCGCTCCCCAGGCCCTCCCCTGGGCTGTGTGGAGGGGTCCGGGGGGAATG
GGCAGCGCCCAGTGGTCACCTGGCCATGTCTCCCCACAGCCCGGAAGCAGGAGATCATT (SEQ ID

NO:23) 22965 ATAAGATGGAAGCTGTTGCACTTGAAAATGAGGAAGCCACTGGTGATGCAGGGGGGGCGG
CGGAGAGGACCTTCTTGCAAATAGCGGCAGGAACACGGCATGGATGCAGCTCGCGCTCC
CCCAGGCCCTCCCCTGGGCTGTGTGGAGGGGTCCGGGGGGAATGGGCCAGCGCCAGTGG
TCACCTGGCCATGTCTCCCCACAGCCCGGAAGCAGGAGATCATTAGACCACGGAGCAGC
TCATCGAGGCCGTCAACAACGGTGACTTTGAGGCCCTACGCGTGAGTCCCTGGGGCTGGGG
[-, G]
GGGGCTGTGCAGGACAAGGATGTGGGACCCCTTGGGGGGGCTGCTCAGAGTCAGGGGTCC
ACGGGGCCCCCTCCTCACTTGGATTGTGGCCCCCAGGAAAATCTGTGACCCAGGGCTGACCT
CGTTTGAGCCTGAAGCACTGGGCAACCTGGTTGAAGGATGGACTTCCACAGATTCTACT
TCGAGAACCGTGAGTGAGGAAGCCCGGTGGGCATGAGGGGGCGGTGCCCCCAGGAGAGC
CTCTCGGCCCTCCCAGGGACAGCATGGTGGCTGCCATGGAAGCCCTGTCCCCTCTGTG (SEQ ID

NO:24) 23498 CCCGCCAGAGGCCATACCCAGCCCCCAGAATCCCACCTCTTGAGGGGGCCCATGCTGCTCC
CAGGAGAGCCGAGCTCCCCAATAAGGGGAGTTGAGAGAGGGAAAGGATTAGGCTGGTGG
GGTGAAGACGGGCACACAGGCGAGTCATGGTAACCCGAGACCCCCGCCCCGCTGTGTGTC
CACAGTGCTGGCCAAGAACAGCAAGCC
[G, A]
ATCCACACGACCATCCTGAACCCACACGTGCACGTCAATTGGAGAGGATGCCGCCCTGCATC
GCTTACATCCGGCTCACGCAGTACATTGACGGGCAGGGCCGGCCCCGCACACAGCCAGTCT
GAGGAGACCCGCGTGTGGCACCGCCGCGACGGCAAGTGGCAGAACGTGCACCTTCCACTGC
TCGGGCGCGCCTGTGGCCCCGCTGCAG (SEQ ID NO:25)

23663 GCCTCCCCAATAAGGGGAGTTGAGAGAGGGAAAGGATTAGGCTGGTGGGGTGAAGACGG
GCACCAGGGCAGTCATGGTAACCCGAGACCCCCGCCCCGCTGCTGTCCACAGTGTGGC
CAAGAACAGCAAGCCGATCCACACGACCATCCTGAACCCACACGTGCACGTCAATTGGAGA
GGATGCCGCTGCATCGCTTACATCCGGCTCACGCAGTACATTGACGGGCAGGGCCGGCC
CCGACACAGCCAGTCTGAGGAGACCCGCGTGTGGCACCGCCGCGACGCAAGTGGCAGAA
[T, C]
GTGCACTTCCACTGCTCGGGCGCGCCTGTGGCCCCGCTGCAGTGAAGGTGAGTGTCTGT
GCTAAGTGACAGCTGGGGCAGAGGGGTGGCGGTGGTGTGAGTGGCTGCAGCCTGGGGAGG
CGATGGGGAGCGGTGGGGCCTGTGGCAGAGCCCATGCCTGGGAAGTCCCTGAGCTTTCTCT
GGTGAGGCCACAGGAATGATGTCAAATTAGGGACCACGGCAGGCTGGGTGTGGCAGGCCT
CCCCAGAGGACTGGGGAGCTGGTGGGGCCTGAGCAGTCCACACTGGCCAGAGCTGGGTG (SEQ ID

NO:26) 25427 TGTGGCAAGAGGACTCTGCCTGGGCTGGCCCCCTCCTGTGTGAGGTGTCTGTCCCTTCT
CTGCTGGCCAGCAGCAGATGCACTGGCAGCTCCCAACCTGTTTCCGCCCTCGGCCCTC
CCCCAGCCTGTTCCGGCTTCTCTGCAGCCCGCAAGGGGAGCAGACTTTTGACAAAGGACT
GCGGGCCTCGCTCAAGTCCCTGAGCCCCCAGCTGAAGCTGGGAGGGGAGGCCAGGCTTTG
TGCTGGGGCATATTCTGTCTGTGTATGGGGTTTGGGGAAGCCTGGGGCTTGGGGTTTGGTCT
[A, G]
GGTGGTGCAGCTAGTGGCAGAGCGGGATCAGAGGTGGTGGCTGCCAGCTTCTGGGCTGA

FIGURE 30

NO:27) GACAAGGGTCTGTGCAGGGGTTTACTGAAGTGGGAGTGCCTTTGGAATCTGGGCCGGGAG
CAGAAGGGAGCAAAGCTACAGTGGGAGCCAGCCTAGGGCACATGGGAGGCGTGAGGGCA
GTGCTGCCCCGTGCAGTGTGAGGTGTGCCAGTGCCTTGGCGGGCTGCAGTGCCTGTGAGGG
CACCTTCTAGGTGGGCCAGGGATGCAGCTATGGAGATAAGGCGGGCTGGGGACAGAAACA (SEQ ID

27727 GCAAACTCTTAGGTTGGAGTAAGGAGTAACCCCTGCCAAGTTTCTCCTGTCCTCAGGCT
CCACCCACCACCTATGCTGCCTGGCCCCATGGGGCACACGCTCAGGCCCAGCCTGGGAAA
GCAACTGCACCTGCCTGTGCTATGCTGGCCCTTCTCAGCCTCAATGCCCTCCTCCCTCCC
CGACGCACCCCTCGTGGCCCCCGCTGGGCCCCCTGATGCACCCTCATGTCTCCATGGCAAC
CTGCTCAGAGTGTGGCCCTGCCCTTGGCTCCCTCCACACCTGTGTCCCAGGCAGTGCCA
[C,T]
GGCACTTTCTAAACAGAAGGATGGGCTTCAAACAGTCCCAGACACTAAACACACCTGC
ATTTTGGGTCCAAGTAACTTCTGACAAGACGAGTGGCCCTACACACCCTCAGTCCCTATCC
ACTATGGGCAAGGAGCCTGAAGGATCCCCCAGAACTGGCTAAAGCCCTCAGTCTCCTCT
CCACCCTGAGCACCTTCACGCGGCAGAGTGGCCCTGGATGTCAGCTTCTTGCTCCCCATG
GTCTGCACCTGGACAGGTGCTCTCAGGTGTGTGGGTGGGCAGGTGGCAGGTCCCAAGAGC (SEQ ID

NO:28)

27834 CCAGCCTGGGAAAGCAACTGCACCTGCCTGTGCTATGCTGGCCCTTCTCAGCCTCAATGC
CCTCCTCCCTCCCCGACGCACCCCTCGTGGCCCCCGCTGGGCCCCCTGATGCACCCCTATG
TCTCCATGGCAACCTGCTCAGAGTGTGGCCCTGCCCTTGGCTCCCCCTCCACACCTGTGTC
CCAGGCAGTGCCACGGCACTTTCTTAAACAGAAGGATGGGCTTCAAACAGTCCCAGACA
CTAAACACACCTGCATTTTGGGTCCAAGTAACTTCTGACAAGACGAGTGGCCCTACACAC
[T,C]
CTCAGTCTTATCCACTATGGGCAAGGAGCCTGAAGGATCCCCCAGAACTGGCTAAAGCCC
TCAGTCTCCTCTCCACCCTGAGCACCTTCACGCGGCAGAGTGGCCCTGGATGTCAGCTT
CTTGCTCCCCATGGTCTGCACCTGGACAGGTGCTCTCAGGTGTGTGGGTGGGCAGGTGGC
AGGTCCCAAGAGCCAGGTGCAAAGAATCTAGGCCAGTGCCACGAGTGCTGCAGTGTCTG
TCCCAGCATGGTATCTAGGGCTCCACTTGCCTATCAGCTGTAATCGGAGGAGGCTTTCC (SEQ ID

NO:29)

FIGURE 3P

Docket No.: CL001204DIV
Serial No.: To Be Assigned
Inventors: Wei SHAO et al.
Title: ISOLATED HUMAN KINASE...

28336

AAGAATCTAGGCCAGTGCCACGAGTGCTGCAGTGTCTGTCCCCAGCATGGTATCTAGGG
CTCCACTTGCCCTATCAGCTGTAATCGGAGGAGGCTTCCAGGCCAGGCCTCCCCAGGAA
GGCTGCAGGCACTGCGGATCGTGCGCCCTCACATGCATTATTCTGAGGCCCTTCTGCAG
ATGCCATCAGGGCAGCAACTCTGATGAGGTATTAGGGCACAGCACACAGGGCTAAGCCAC
CCTGTACTGGGCAAGCGCTACAGGCAAAAAGGACACCACCGACGGGCATTTTCATTCATC
[G,A]
CTTTTATTTTTATATATTTTTGAGAGGGAGCCTCACTCTGTCTGCCCCAGGCTGGAGTGCAG
TGGCGGATCTTGCTCACTGCAACTTCTCCCTCCTGGGTTC (SEQ ID NO:30)

FIGURE 3Q